The OIL WEEKLY

15¢ A COPY

Exclusively Devoted To The Production and Transportation of Oil and Gas

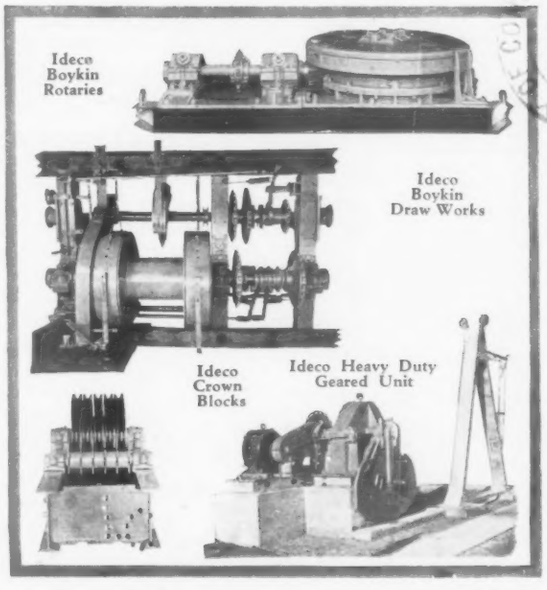
Engineering News Statistics

June 20, 1930 – Supt-12-1930 W. Epl Volume 58. No. 1

IDECO DERRICKS SPOT THE LANDSCAPE

Wherever oil is produced, IDECO Steel Derricks gleam in the sunshine in their silver-like galvanized coat. More and more are operators standardizing on IDECO.

Beneath these sturdy structures you will find an increasing amount of IDECO-BOYKIN built drilling and pumping equipment. From rotary equipment to the lightest pumping unit these products are engineered from experience in the field. It is no wonder that operators say IDECO equipment is the most practical and serviceable to be obtained anywhere.



THE INTERNATIONAL DERRICK & EQUIPMENT CO.

Columbus, Ohio Marietta Beaumont, Texas Los Angeles, Cal.

Plants: Columbus, Delaware, Ohio; Torrance, California; Beaumont, Houston, Texas. *District Offices:* New York City, N. Y.; Pittsburgh, Pennsylvania; Wichita, Kansas; Tulsa, Oklahoma; Shreveport, Louisiana; Fort Worth, Beaumont, Texas; Maracaibo, Venezuela. *Warehouses and Stocks:* Columbus, Delaware, Ohio; Seminole, Tonkawa, Drumright, Okemah, Maud, Sasakwa, Allen, Oklahoma City, Oklahoma; El Dorado, Wichita Heights, McPherson, Kansas; Houston, Beaumont, Big Spring, Odessa, Pyote, Pampa, Borger, Mexia, Luling, Wichita Falls, Grand Saline, Seguin, Hebbronville, Texas; Lake Charles, Shreveport, Louisiana; Smackover, El Dorado, Arkansas; Bakersfield, Taft, Torrance, California.

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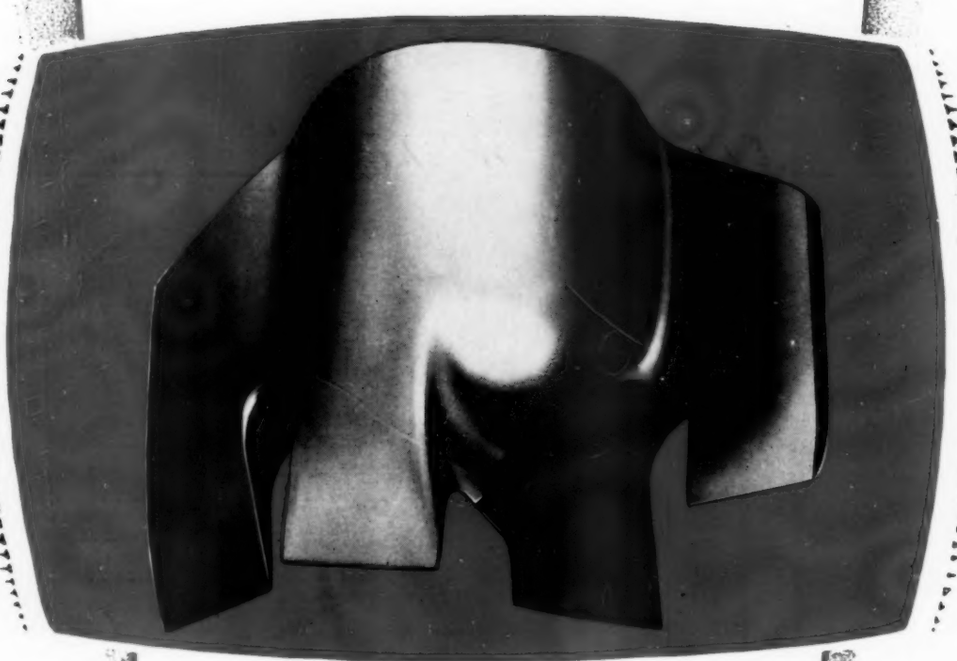
The Elliott DRILLING BIT



A *new* bit embodying new speed and efficiency in making hole — *longer* runs — *new* economies in service.

. . . during all the years we have devoted to the pioneering and development of the Elliott Rotary Core Drill, we were, of necessity, intensively perfecting the *fast and efficient digging feature* of this tool. It is but natural that this extensive and specialized effort should produce *hole-making features* of more than ordinary merit.

. . . and so, we have embodied these exceptional hole-making features in a bit to be used exclusively for drilling purposes.

. . . and here it is. We will leave the verdict to you. Judge it in any kind of drilling service, under any service conditions, according to any standards you choose.

. . . complete data will be supplied to any interested companies or individuals on request.

Elliott
CORE DRILLING COMPANY
4731 East 52nd Drive
LOS ANGELES, CALIFORNIA.

Export Office: 150 Broadway, New York

BACKED BY THE *integrity* OF A GOOD NAME

The OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 3301 Buffalo Drive, Houston, Texas. Subscription price $1.00 per year; 15 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879.

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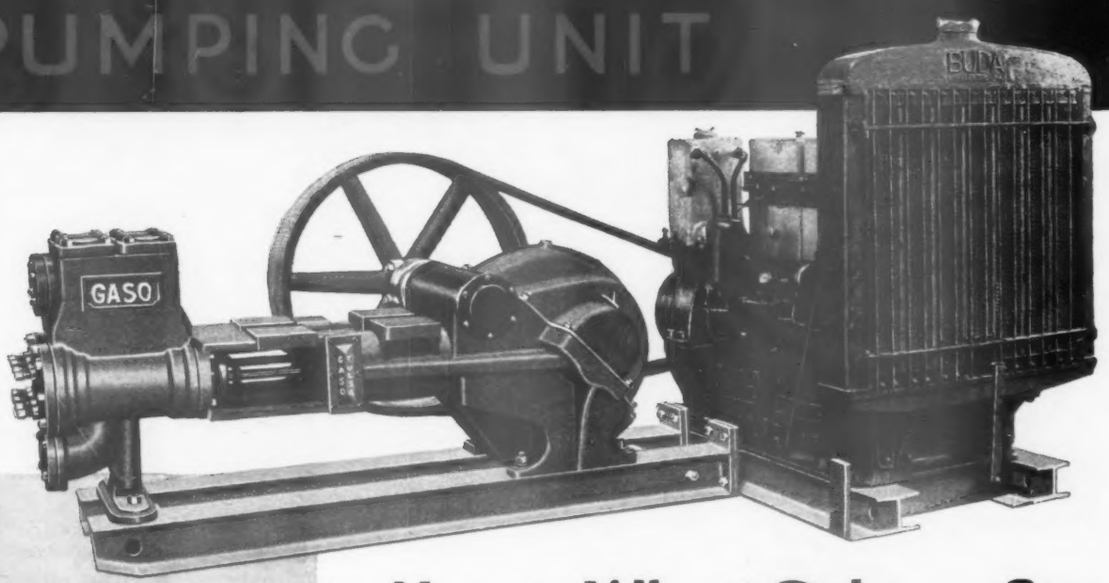
YOU *can best figure its advantages to* YOU

GASO-BUDA DIESEL PUMPING UNIT



SPECIFICATIONS

Unit consists of GASO Fig. 710 Duplex Piston Enclosed Type Power Pump, compactly mounted on steel H-beam skids, with V-rope drive from BUDA-M.A.N. Diesel Engine.

The Fig. 710 Pump features: an enclosed crank case, with all working parts running in an oil bath; Timken Tapered Roller pinion bearings; solid Herringbone Gear, mounted in center on steel crank shaft; genuine babbitt main bearings.

Interchangeable liner fluid ends give capacities ranging from 54 bbls. per hour at 1400 lbs., working pressure, to 500-bbls. per hour at 300 lbs. pressure.

BUDA-M.A.N. Diesel Engines are full Diesel, light weight, high speed, airless injection, and self-starting without hot spots or auxiliaries. Require no more space than heavy duty gas engines of equal horsepower and are less than half the weight per horsepower of ordinary Diesel engines. 92 or 120 H.P.

Here's What Others Say

"This unit is one of the best investments we ever made in pumping equipment. . . "

"It has proven itself an ideal installation in new and unproven fields, being very economical of operation and handling a large capacity at high pressures."

"Served us in a manner that has been both profitable to ourselves and permitted us to move into the field and service our customers without delay."

Get full particulars about this compact, portable, Diesel-powered, large capacity pumping unit.

GASO PUMP & BURNER MFG. COMPANY, Tulsa, Okla.
Fort Worth, Texas New York, N. Y.

GASO PUMPS
for every oil industry need

They last from four to ten times LONGER

Extreme durability is one of the important features of Emsco *Free-Circulation* Protectors—and our statement that they last from four to ten times longer than other types, under the same service conditions, is abundantly backed up by their actual performance in the field.

Their exceptional lasting qualities are due to the exclusive Emsco designs, the materials used, and the method of locking on the pipe. They are never subjected to expansion strains, therefore they are not seriously damaged by a cut or tear due to expansion strains—they are highly resistant to circulating oil—and they provide efficient protection to drill pipe, casing, tool joints and collars until *every one of the tough rubber "bumpers" is completely worn down.*

Get the facts! Write or call us now for illustrated circular, important data and records of service.

E. M. SMITH COMPANY

637 So. Clarence St., Los Angeles, California

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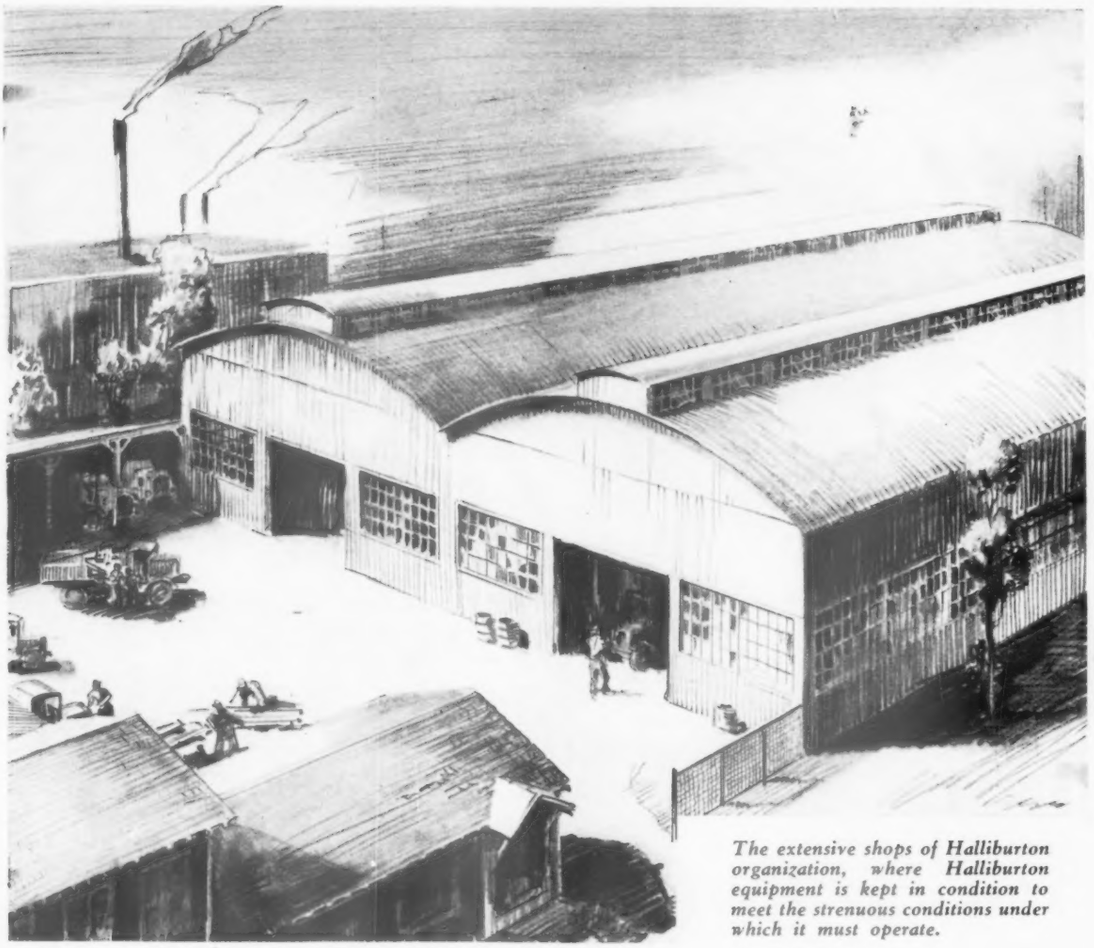
Emsco *Free-Circulation* PROTECTORS



The extensive shops of Halliburton organization, where Halliburton equipment is kept in condition to meet the strenuous conditions under which it must operate.

Forty thousand wells everlastingly protected against the hazards that spell premature sterility. Forty thousand wells protected against intrusion of water, migration of fluids, shifting formations, corrosion and collapse of casing—

This is a record in which we take pardonable pride. But there is even greater satisfaction in the thought that never has Halliburton been content to "let well enough alone." Constantly the greatest organization of cementing specialists in the world continues its efforts to improve still further a process already marvelously efficient.

HALLIBURTON

OIL WELL CEMENTING CO.

Duncan, Oklahoma

Engineering data and information of general interest—set off by a dash of humor; that describes "The Cementer," issued periodically by Halliburton. Your name and address on the accompanying coupon, is all that is necessary to become a "subscriber."

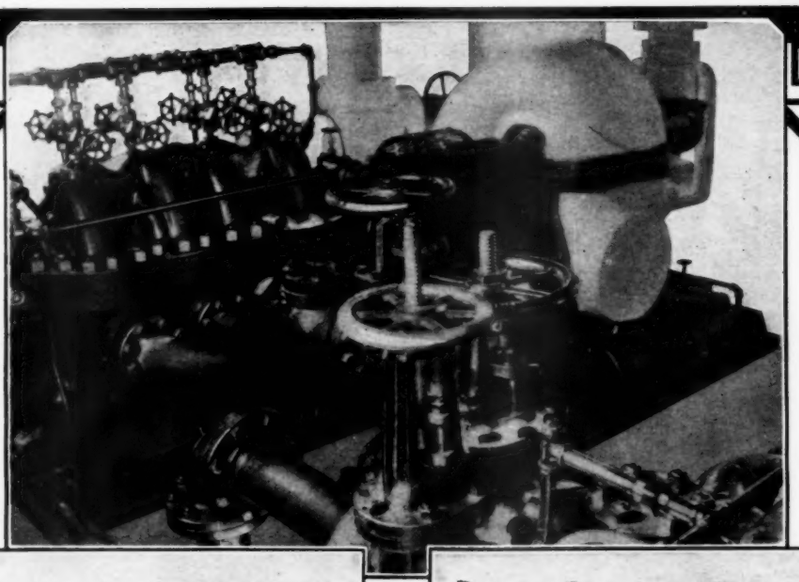
Halliburton Oil Well Cementing Co., Dept. OW, Duncan, Okla.

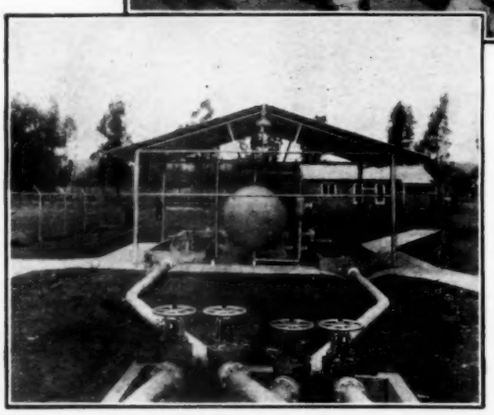
Without cost or obligation, please place my name on the list to receive THE CEMENTER regularly as issued.

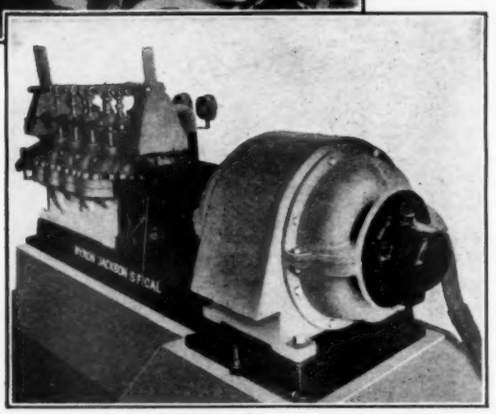
Name .....

Company .....

Address .....







GASOLINE PIPE LINE PUMPS

The pump shown in the upper photograph starts casinghead gasoline on its way through a 100-mile pipe line. The lower photographs show the intermediate booster station automatic control apparatus and pump. The simplicity and inexpensiveness of such an installation commends it to the practical operator. Byron Jackson oil pipe line pumps are designed and built specifically for pipe line service and embody all of the mechanical and hydraulic features particularly fitting them for such work. Stocks of pumps and parts at strategic points and a nation-wide sales and service organization insure satisfaction in the use of Byron Jackson centrifugal pumps. May we figure on your next job?

SINCE 1872

BYRON JACKSON CO.

Factories: BERKELEY, Los Angeles, Visalia, Calif.

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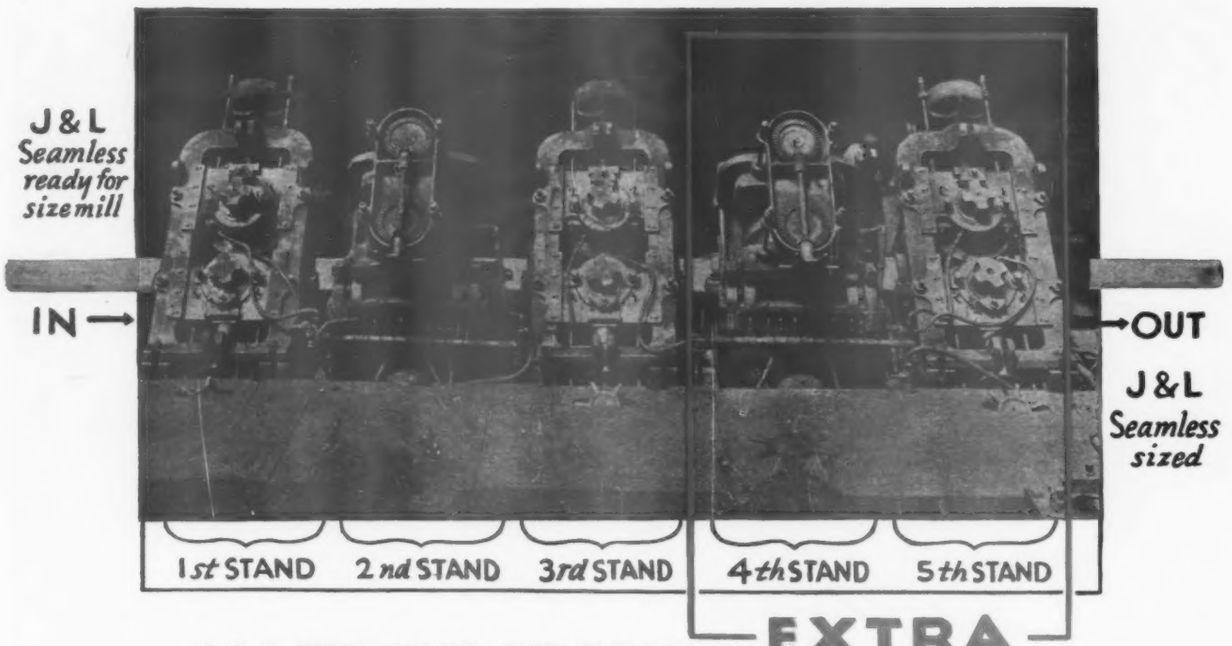
BYRON JACKSON

CENTRIFUGAL PUMPS FOR EVERY SERVICE



J & L FIVE STAND SIZE ROLLS

Instead of two or three stands of hot size rolls J & L employs five stands to bring its pipe to final dimensions. The picture shows the angle at which each stand is set to produce very best results.

Jarring on Flush-to-Gauge Bits Takes Time and Costs Money

Bits dressed flush to gauge are likely to stick at one time or another if the casing in which they are run is not uniformly round. When J & L first planned to make Seamless Steel Pipe, men who knew the problems and requirements of the field, as well as mill design and operation, were consulted. They designed for J&L a hot size mill that employs five stands, or sets, of rolls. By this modern sizing process, J & L Seamless is reduced gradually—by five easy stages—to final dimensions. One result is the preservation of the highly uniform wall thickness obtained by the double piercing process and retained through rolling in the heaviest plug mills now in use. Another important result is production of pipe that is unsurpassed for perfection of roundness.

JONES & LAUGHLIN STEEL CORPORATION

AMERICAN IRON AND STEEL WORKS

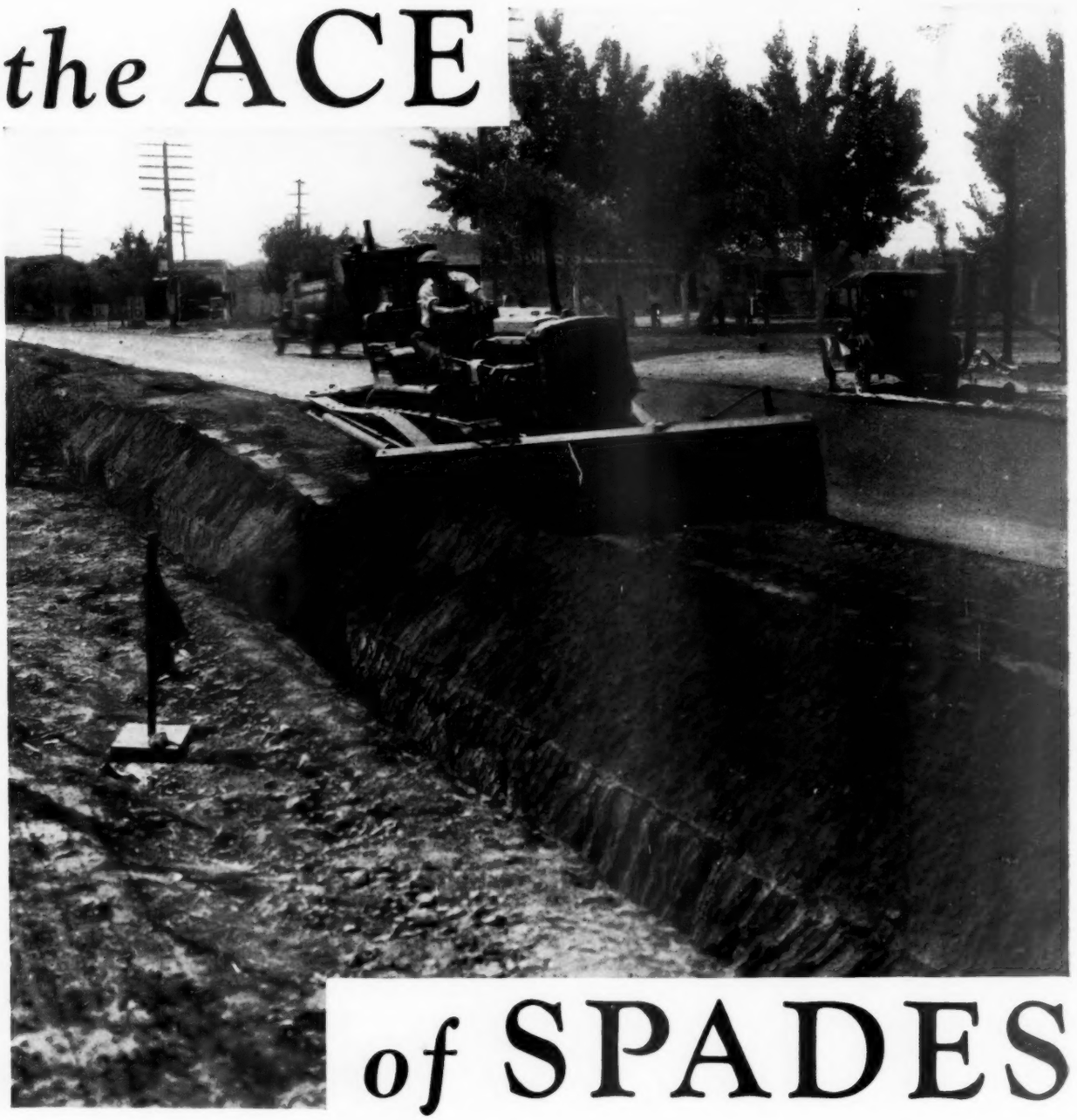
J&L STEEL

Manufacturers of Seamless and Welded Casing, Tubing, Drill Pipe and Line Pipe, and Welded Steam, Gas and Water Pipe in both Black and Galvanized.

Also makers of Bars, Shapes and Plates, Reinforcing Bars, Cold Finished Steel, Junior Beams, Steel Piling, Fabricated Structural Work, Steel Barges, Wire Products and Tin Mill Products.

JONES & LAUGHLIN BUILDING, PITTSBURGH, PENNSYLVANIA

the ACE



of SPADES

THE "Caterpillar" Tractor likes a back-filling job—it proves its traction by the way it rides the soft soil; the power by the volume of earth that pours off the blade; its speed by the number of men with shovels it replaces. Back-filling after gas or water mains or cable havè been laid is an ideal job for the "Caterpillar" to prove its ability to do things *better, quicker, cheaper.*

Prices—f. o. b. Peoria, Illinois

TEN . . . $1100 TWENTY . $1900
FIFTEEN . $1450 THIRTY . $2375
SIXTY . . $4175

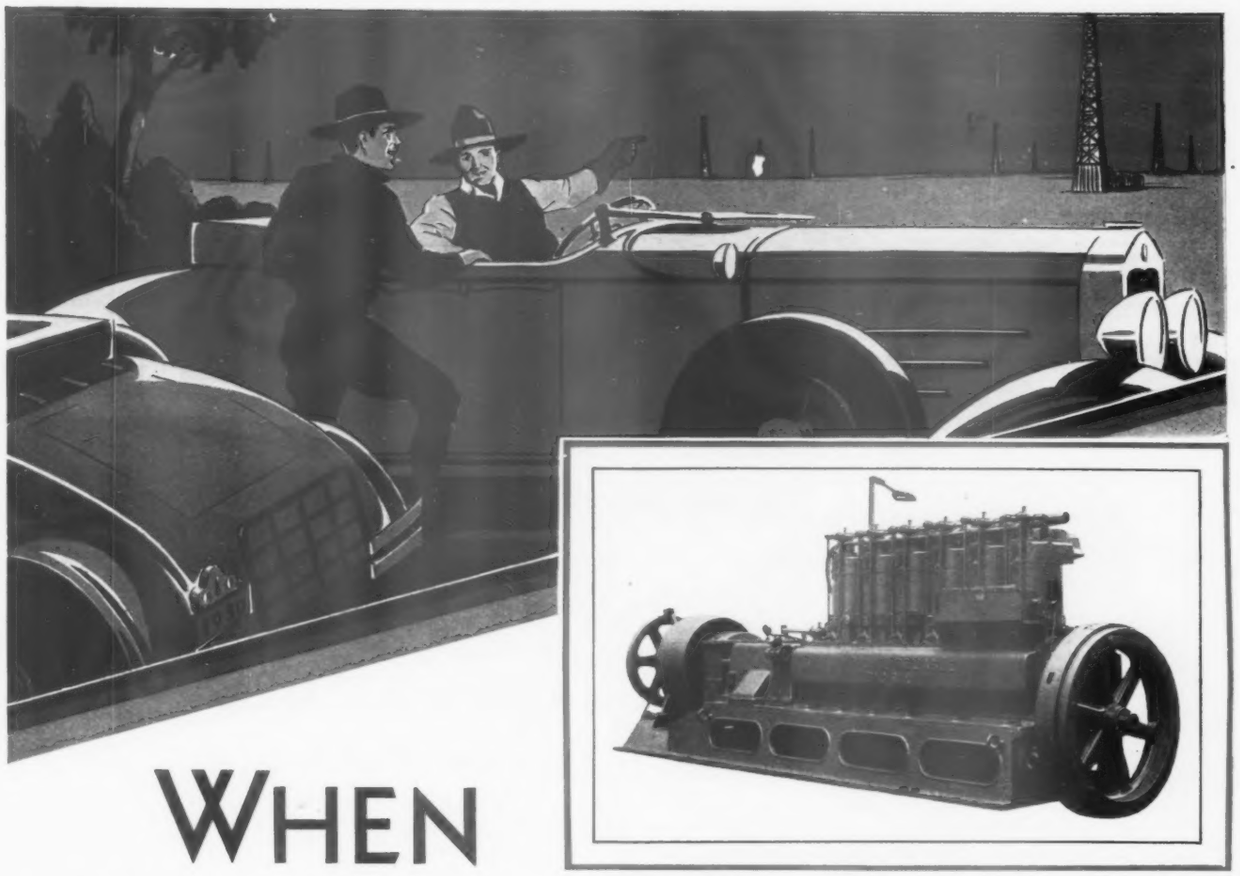
Caterpillar Tractor Co.

PEORIA, ILL. *and* SAN LEANDRO, CALIF., U. S. A.

Track-type Tractors Combines Road Machinery

(There's a "Caterpillar" Dealer Near You)

CATERPILLAR
REG. U.S. PAT. OFF.
TRACTOR



WHEN DRILLERS MEET THEY BOOST FOR THIS RELIABLE POWER

"See that well over there," said S. E. Bailey, well-known drilling contractor of Salina, Kansas; "well, we used a WRIGHT RELIABLE DRILLING ENGINE, and reached our contract depth of 3500 feet in 74 days elapsed time, including 720 feet of underreaming. That's just about 26 days quicker completion than any other well drilled in this territory."

"We moved the Wright from a well completed at 4100 feet in Mitchell County, Kansas—making 8100 feet drilling without overhauling. We only averaged 87 gallons of gasoline each 24 hours too, with this engine. How's that for low fuel cost?"

"Yes, we've bought our second WRIGHT RELIABLE—a Big Six. We believe our experience with these engines is about the strongest endorsement any one could want on the best drilling power to be had today."

You too can effect big savings by using WRIGHT RELIABLE DRILLING ENGINES. Send in the coupon today, and we'll send you the full story of these time and money saving engines.

WRIGHT ENGINE STOCKS CARRIED AT WICHITA, KANSAS RUSSELL, KANSAS AND HOBBS, NEW MEXICO.

MANUFACTURED BY

The WRIGHT MACHINE CO., Inc.

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OWENSBORO, KENTUCKY, U. S. A.

Distributed in the Mid Continent Field by the 15 Stores of

The BRIDGEPORT MACHINE CO.

WICHITA, KANSAS

Backed by BRIDGEPORT'S 24-Hour Day and Night Service

THE WRIGHT MACHINE CO.

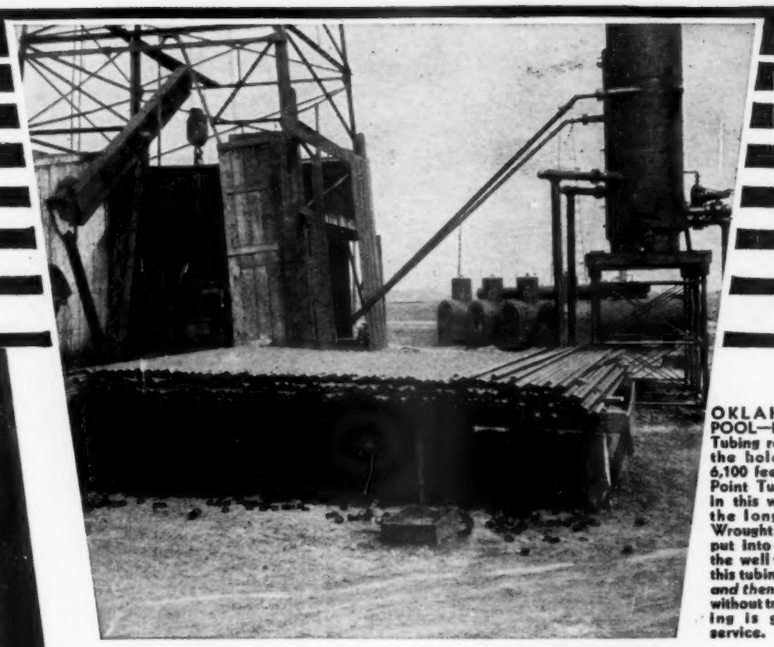
OWENSBORO, KENTUCKY

Gentlemen . . Please send me full particulars of your WRIGHT Reliable drilling engines.

Name_____

Street No._____ City_____

Company_____ State_____



OKLAHOMA CITY POOL—Reading 5-Point Tubing ready to go into the hole. More than 6,100 feet of Reading 5-Point Tubing was used in this well—probably the longest string of Wrought Iron Tubing ever put into a well. When the well was deepened, this tubing was removed *and then set back again* without trouble! The tubing is giving perfect service.

When you want to be SURE make it Genuine *Puddled* Wrought Iron!

Quality—not price—is the measuring stick for Oil Country pipe. Where pipe must *last*—where production depends upon reliability of tubing—order Reading 5-Point Pipe, every time.

For Reading 5-Point Pipe is the original, Genuine *Puddled* Wrought Iron. It gives you the time-tested resistance to corrosion—the time-tested ability to stand up under fatigue—that have made Reading 5-Point tubular goods famous since 1848. There is no guesswork about Reading 5-Point Galvanized Tubing, Reading 5-Point Casing and Reading 5-Point Line Pipe—you are SURE of their superior endurance.

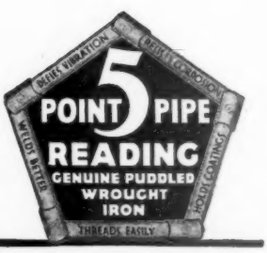
To protect yourself from needless pipe troubles and delay, insist on getting Genuine *Puddled* Wrought Iron. We prevent mistake and substitution by placing our name and indented spiral mark on every length of Reading 5-Point Pipe.

As an added improvement, all Reading Galvanized Couplings for Reading 5-Point Tubing are now furnished with galvanized threads.

Reading pipe distributed by:
Frick-Reid Supply Corp.
Bradford Supply Co.
Republic Supply Co.
Superior Tube Co.
Our own stocks at Houston, Texas

READING IRON COMPANY
Reading, Pennsylvania

Atlanta . Baltimore . Cleveland . New York
Philadelphia . Boston . Cincinnati . St. Louis
Chicago . New Orleans . Buffalo . Houston
Tulsa . Seattle . San Francisco . Detroit
Pittsburgh . Los Angeles . Kansas City



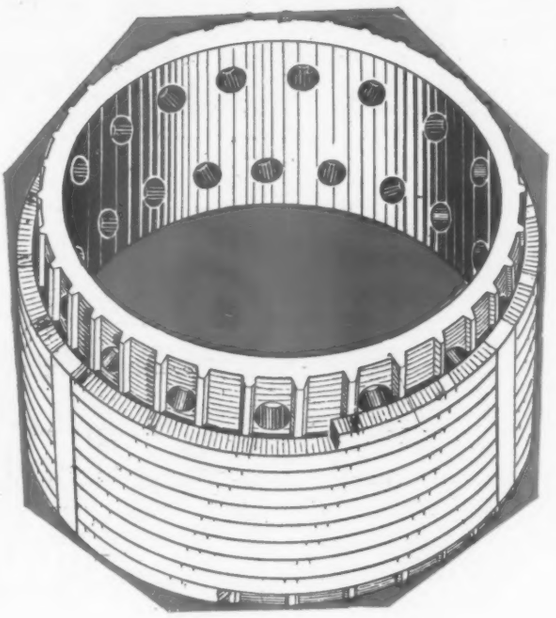
GENUINE PUDDLED WROUGHT IRON
READING PIPE
DIAMETERS RANGING FROM ⅛ TO 20 INCHES

Science and Invention Have Never Found a Satisfactory Substitute for Genuine Puddled Wrought Iron

ALL the Surface A Screen . . . . .

NOTE IN THE ILLUSTRATION that the entire area of the pipe is screening surface. Numerous practical oil men who have made fair comparisons know from actual experience how much faster oil screens where the entire surface admits the oil than where only grooves or small perforations admit the oil.

The reasons for this are immediately evident to the engineer. The increased screening area reduces inlet velocity, thereby reducing fluid friction and allowing greater volume of fluid flow through the screen at a given pressure in the well. This reduced velocity reduces sand cutting and gives longer life to the screen.



Specifications

1. The outside diameter of the Stancliff Well Screen is less than the diameter of the couplings and can be set through any pipe that will pass the couplings.

2. Ribs on pipe allow .061 of an inch for oil circulation and permit free flowing of oil into pipe, after straining through wires. Ribs strengthen pipe as much as perforations have weakened it . . . AN IMPORTANT ADVANTAGE OVER OTHERS.

3. Square wire is used to give greater life without "sanding", because sand must cut through entire width of wire before affecting screen.

4. The square wire is lugged from top to bottom at regular intervals, uniformly spacing and bracing wire at bottom as well as top.

5. By varying spacing lugs on wire, we make strainer to screen any size or kind of pipe.

6. Has parallel spacing between the wires thus facilitating cleaning the strainer. No chance to clog up under pump pressure when cleaning as is the case with some other screens not made with square-faced wire.

use a

STANCLIFF SCREEN

And Increase Your Production

To produce more oil and to make more money you must have the best equipment on the market. Of all the pieces of equipment used in the production of oil, the screen is one of the most important. Upon its ability to SCREEN ALL THE OIL and to SCREEN OIL RAPIDLY, depends the amount of oil an operator produces.

The screen is at the money point. It is the point of contact between the oil sand which has potential value and the oil which has REAL VALUE.

The STANCLIFF SCREEN has been constructed so that this REAL VALUE can be taken from the sand more efficiently and with greater returns to you in the form of money. Its sturdy construction will increase the life of your well.

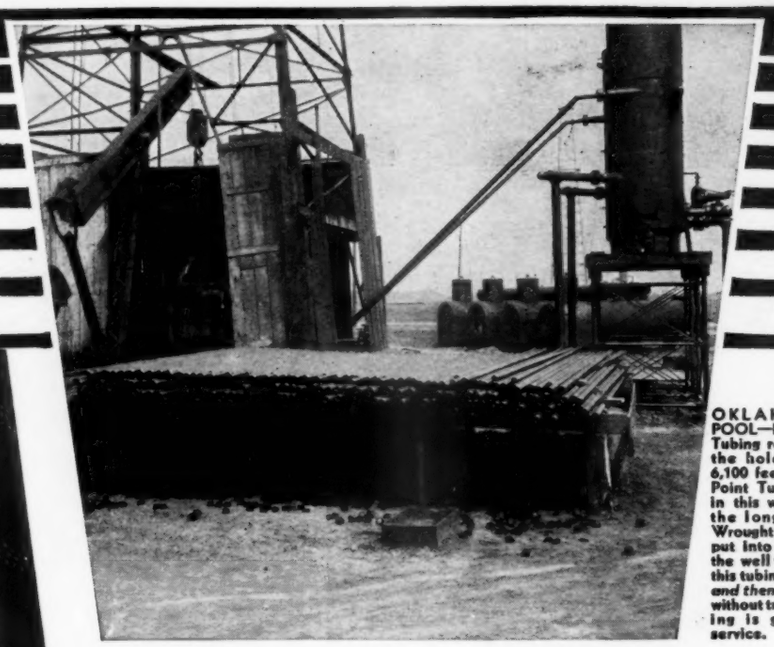
Write or wire for Facts and Users

A Stancliff "More Oil" Screen Will Make You More Oil Money

HOWARD SMITH COMPANY

2412 Railroad Avenue at Sawyer Street

Phone P-0131 HOUSTON TEXAS P. O. Box 688



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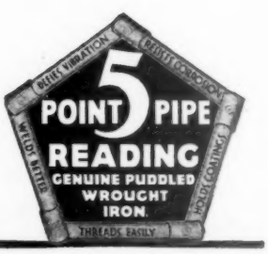

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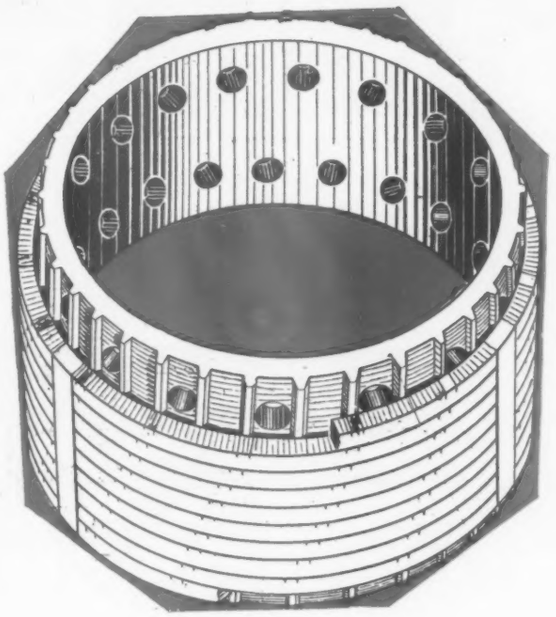

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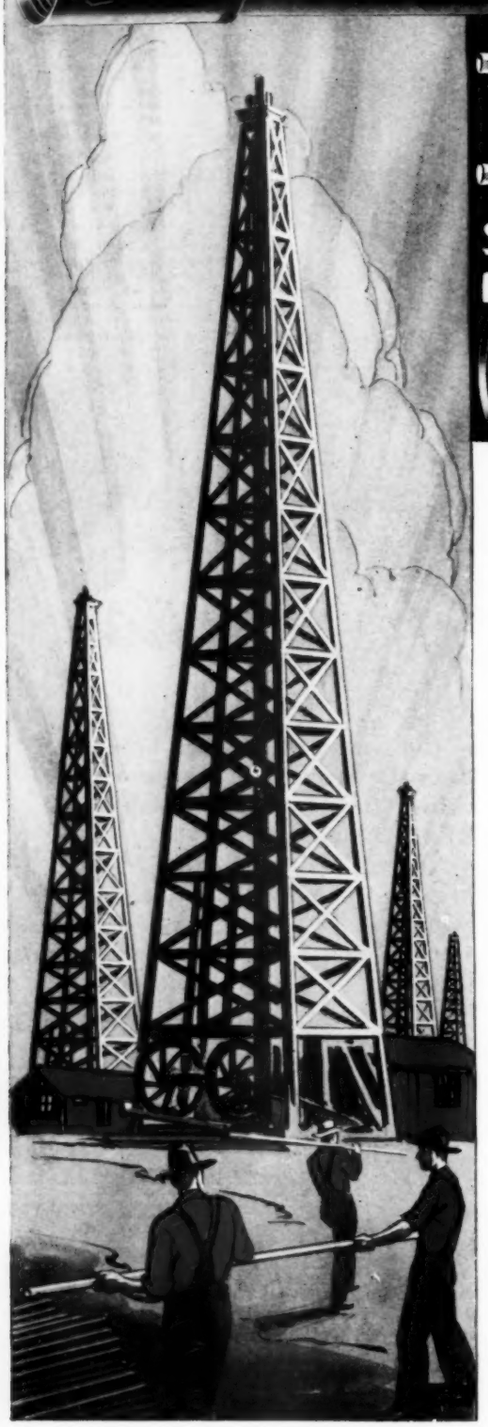

WELDED *and* SEAMLESS

STANDARD

OIL COUNTRY TUBULAR PRODUCTS

IT TAKES over 50 pages of closely set, small type tables to cover the various sizes, weights, pressure tests, etc., of the various "Spang" Welded and "Standard Seamless" grades.

Therefore, regardless of what your requirements may be you will find in these well known Oil Country Tubular Products, a complete selection of standard sizes to meet your every oilwell or pipe line specification.

SINCE 1828

Whether you require Welded or Seamless, standard or special, large or small, Spang-Chalfant gives you a 100% choice—pressure-tested to meet the widest range of oilfield service conditions.

SPANG, CHALFANT & CO., INC.

General Offices: CLARK BUILDING, PITTSBURGH, PA.

Sales Offices:
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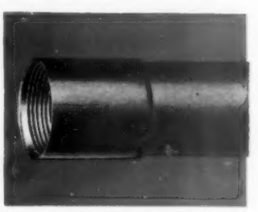
Welded Mills:
ETNA, PA. SHARPSBURG, PA.

Seamless Mills:
AMBRIDGE, PENNA.



EVERYTHING ELECTRICAL FOR THE OIL FIELDS

an IMPROVED DRIVE

for hand-feed rotary drilling

A 125-hp. gas-protected rotary drilling motor driving hand-feed rotary line shaft torough a type OP-5 reduction gear.

BETTER drilling conditions and more dependable and economical operation are provided when the Westinghouse single-motor equipment is used to drive the draw works for hand feed rotary drilling operations.

This modern simplified drive consists of the efficient, sturdy Westinghouse-Nuttall OP-5 single reduction gear, a Westinghouse single-speed drilling motor, and control by which the necessary variations in speed are obtained.

Both motor and gear unit are assembled on the same base, forming a self-contained, compact and flexible drive that is easy to install and transport and occupies but little space. The complete drive sets directly behind the draw works, a chain connecting the low speed gear shaft and the line shaft.

Westinghouse OP reduction gears can be used with 75, 100 and 125-hp. motors. The durable, heat-treated gears and shafts and the sturdy, totally enclosed case of these units provide ample strength to assure extreme reliability of operation in the most severe service.

Detailed information on this drive may be obtained from any branch of the Oil Well Supply Company, located in all oil fields.

Service, prompt and efficient, by a coast-to-coast chain of well-equipped shops

Westinghouse

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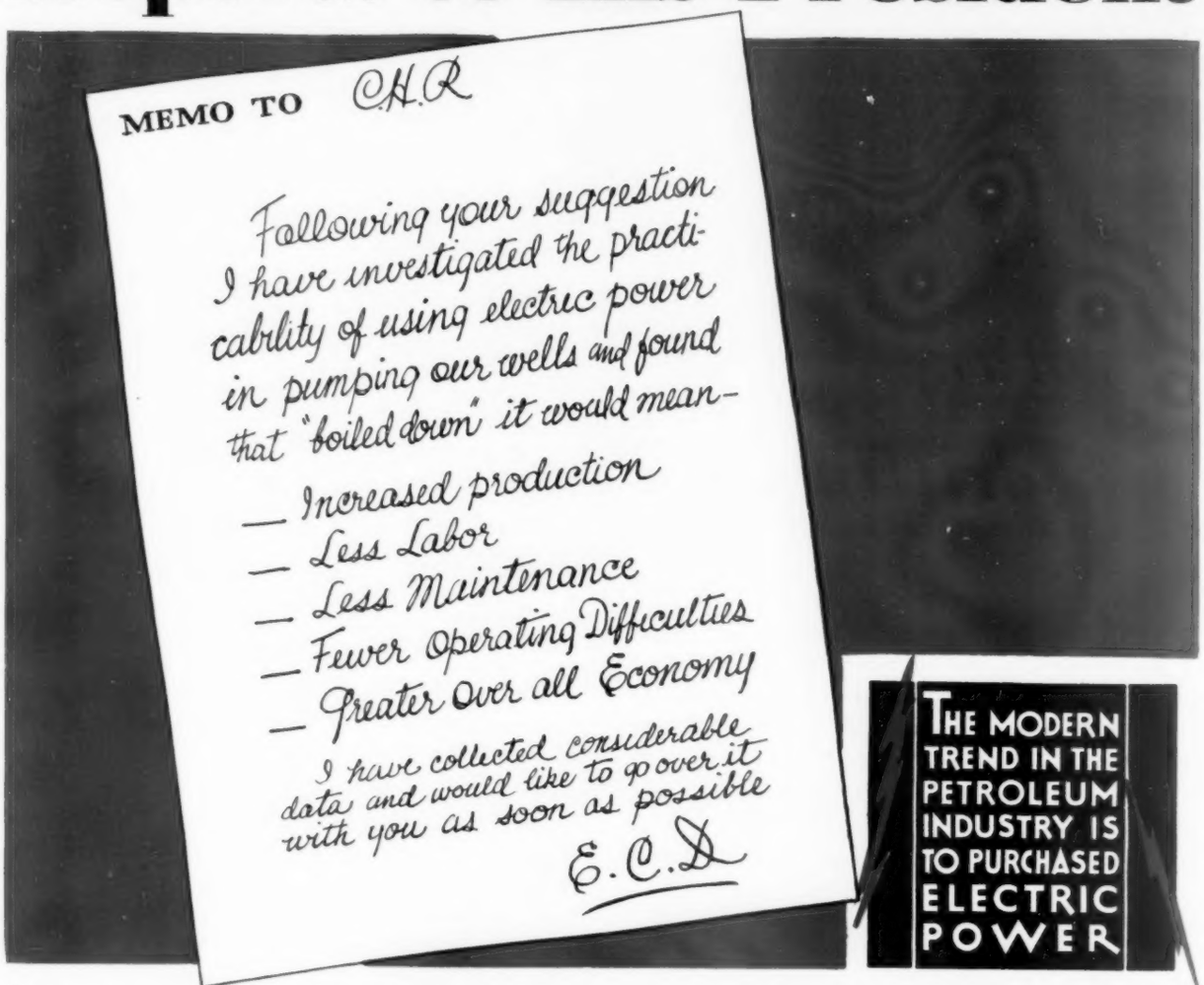
TUNE IN THE WESTINGHOUSE SALUTE OVER THE N. B. C. NATION-WIDE NETWORK EVERY TUESDAY EVENING.

A Great Engineer Reports to His President


MEMO TO C.H.R
Following your suggestion I have investigated the practicability of using electric power in pumping our wells and found that "boiled down" it would mean—
— Increased production
— Less Labor
— Less Maintenance
— Fewer Operating Difficulties
— Greater Over all Economy
I have collected considerable data and would like to go over it with you as soon as possible
E. C. D
THE MODERN TREND IN THE PETROLEUM INDUSTRY IS TO PURCHASED ELECTRIC POWER

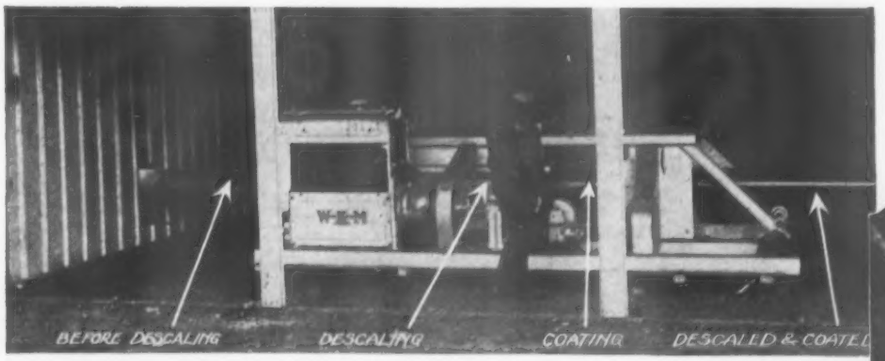
May we send you this data without obligation?

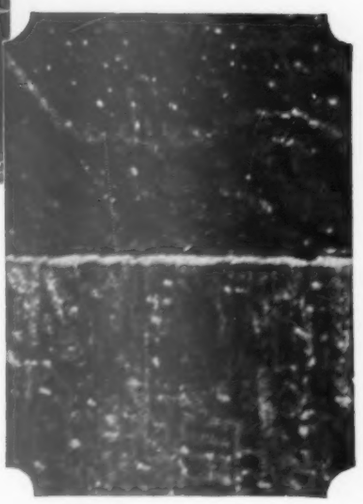
TEXAS POWER & LIGHT CO.

General Offices: INTERURBAN BUILDING . . . DALLAS

Providing for the Texas of Today—
Planning for the Texas of Tomorrow

LONGER LIFE FOR STEEL LINE PIPE





DESCALING
Preserves the Pipe

Unless all mill scale is thoroughly removed, you are simply painting the scale and *not the actual pipe surface.*

For this reason, *descaling* (removal of all mill scale) is absolutely necessary in the preparation of the pipe surface before applying the protective coating. This thorough cleaning also eliminates the destructive galvanic action between mill scale and steel pipe.

When you specify Chester *descaled* pipe, every particle of mill scale is removed and the pipe is given a priming coat before it leaves the descaling machine.

Top half shows the mill scale magnified 10 times.

Lower portion shows same pipe descaled and slightly roughened to grip and bind the protective coating to the pipe.

Complete particulars and quotations gladly furnished on request.

Chester also makes all classes of Genuine Wrought Iron Tubular Goods.

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H. A. Morse
30 Church Street,
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J. P. Steele,
305 Petroleum Bldg.,
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District Offices:

J. D. Swartz, 1231 S. Evanston St., Tulsa, Oklahoma
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LeValley, McLeod, Kinkaid Co., Inc.
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Petroleum Supply Co.,
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Wagner Supply Co.,
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Pelican Well Tool & Supply Co.,
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United Oil Well Supply Co.,
712 A. G. Bartlett Bldg.,
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Great Northern Tool & Supply Co.,
Billings and Kevin, Mont.

Kemmerer and Cody, Wyo.

United Pipe & Supply Co.,
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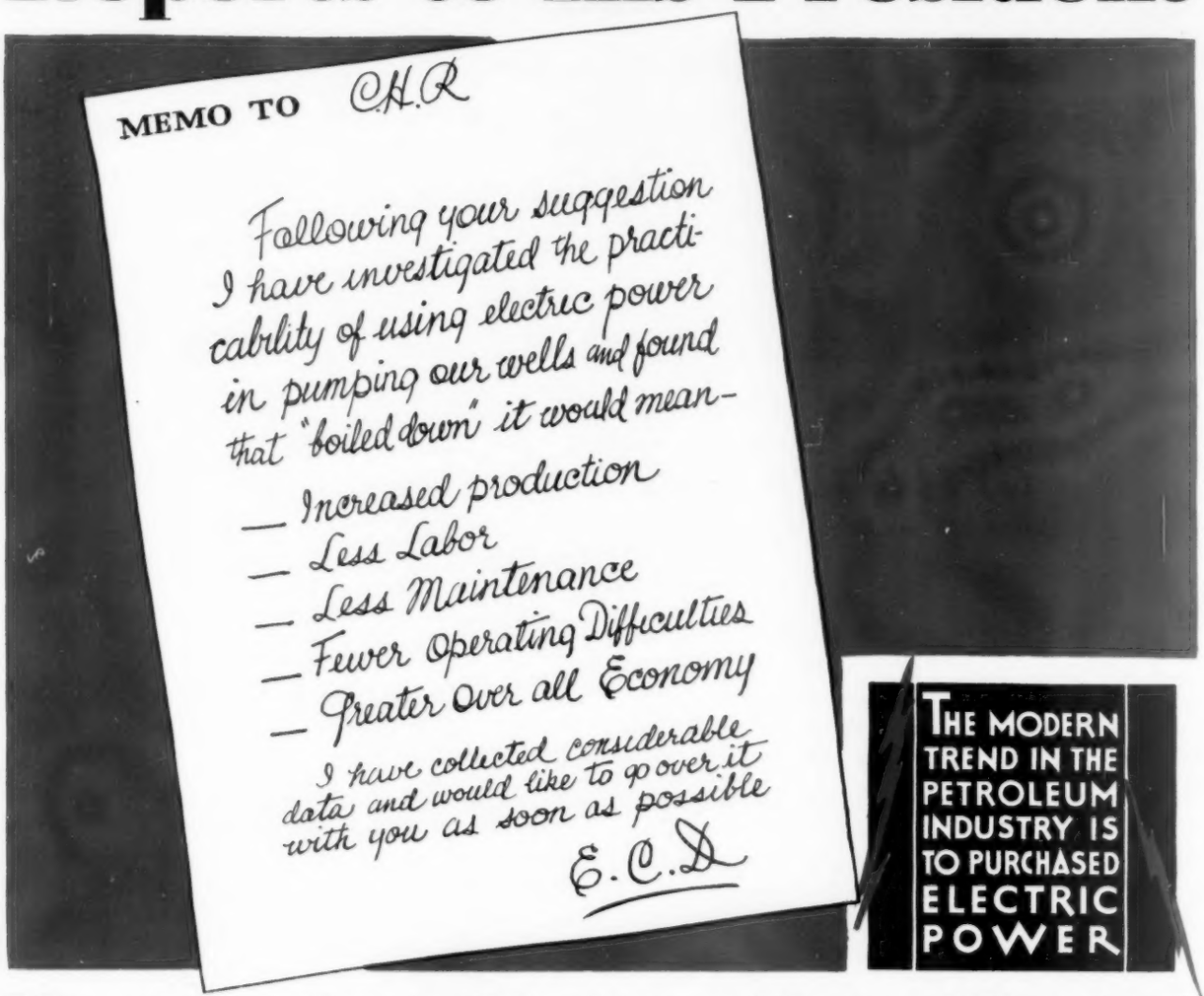
CHESTER
STEEL SPECIALISTS IN CASING FOR DEEP WELL DRILLING **CASING**
LINE PIPE

A Great Engineer Reports to His President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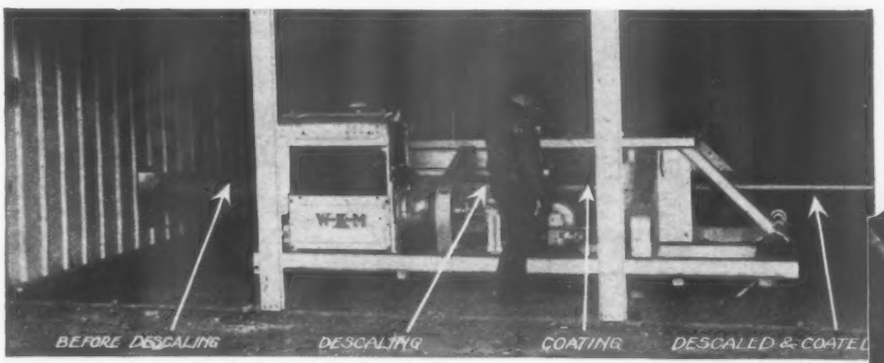

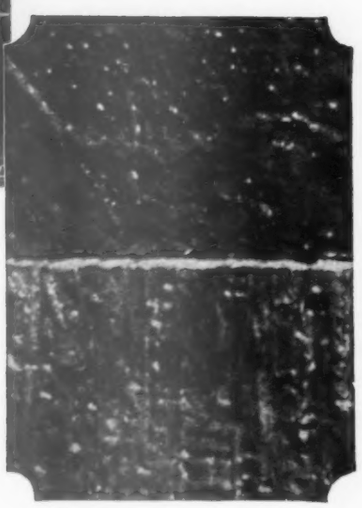

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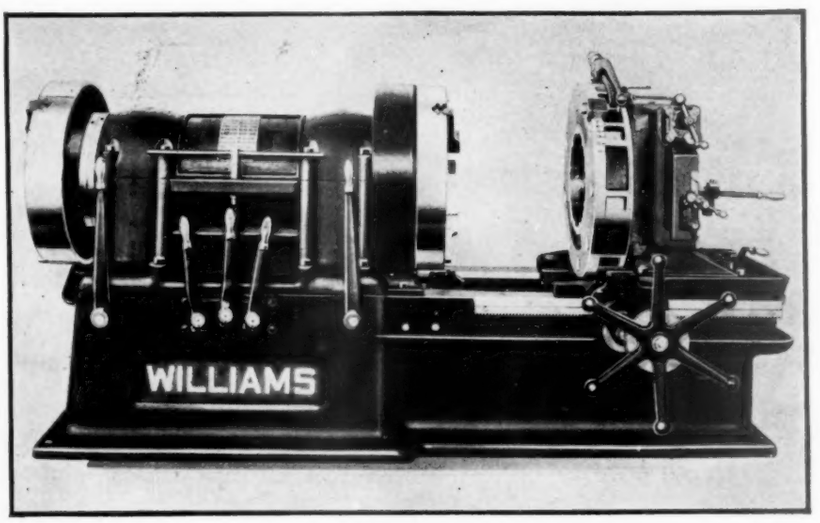
CHESTER
STEEL CASING
SPECIALISTS IN CASING FOR DEEP WELL DRILLING
LINE PIPE

The Rapiduction is a Leader in the Most Complete Line of Hand and Power Operated Pipe and Bolt Threading Equipment in the World.

3½" PIPE OR 12" PIPE

You Can Thread Either with a No. 12 Rapiduction Without Changing Dies or Die Heads — and do it 25% Faster.



THAT'S one reason you'll find so many Williams Rapiductions in the oil field and refineries.

You don't have to change the dies or die head every time you want to thread a different sized pipe. With a No. 12 Rapiduction you can thread or cut-off 11 different sizes of pipe from 3½ to 12 inches without touching either dies or die head. And in addition the Rapiduction is 25% faster in threading and cutting-off speed.

These two features mean hours saved every day—hours of added productive machine and labor time. And that, in turn, means less operating cost—more savings for you.

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THE OSTER MANUFACTURING COMPANY

JOINED FOR GREATER SERVICE

WILLIAMS TOOL CORPORATION

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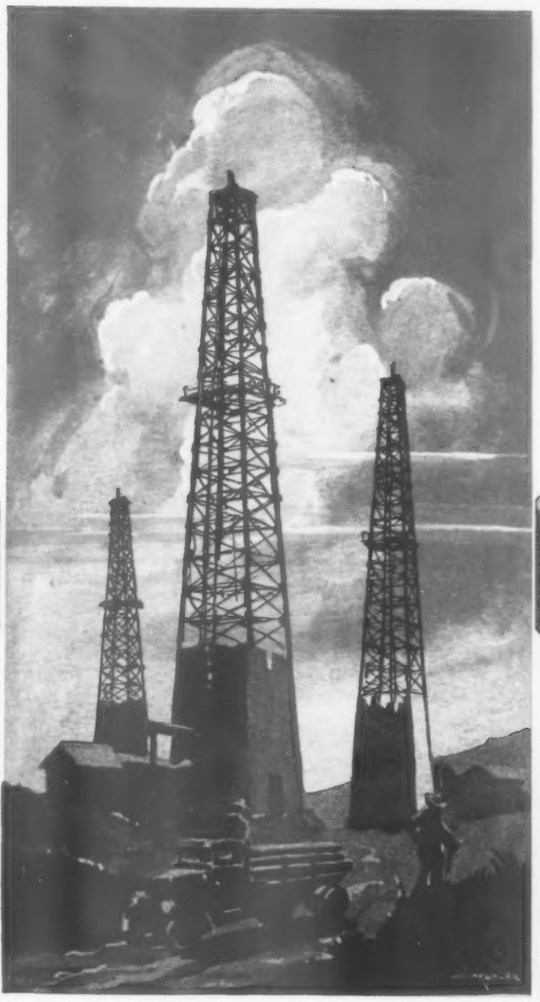
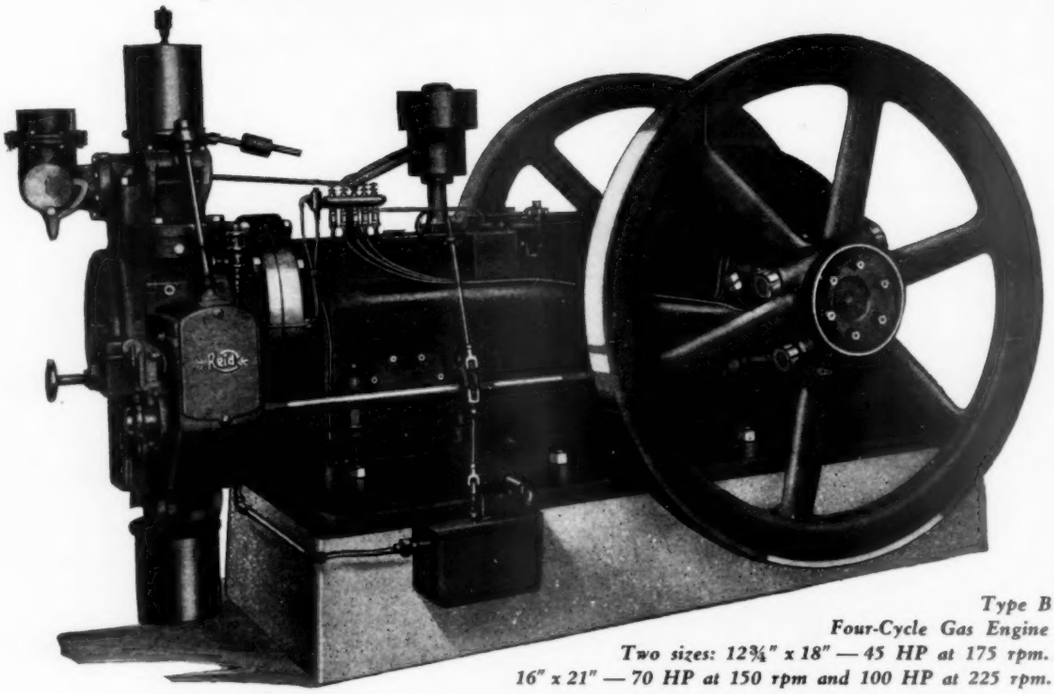


Every length of Republic Steel Pipe is the same . . . identical in flawless structure, chemically and physically, and uniform in shape and strength. The same high standard of quality is maintained in one ton or thousands of tons. This uniformity is the most reliable insurance for the hard service that oil field pipe must undergo. There is no stronger, safer, more durable steel pipe than Republic.

REPUBLIC
STEEL CORPORATION, YOUNGSTOWN O.
PIPE & CASING



Type B
Four-Cycle Gas Engine
Two sizes: 12¾" x 18" — 45 HP at 175 rpm.
16" x 21" — 70 HP at 150 rpm and 100 HP at 225 rpm.

Sustained Power for the Oil Fields in an Economical Engine

In the oil fields of the East, in the oil fields of the West—wherever the flywheels of Reid Type B Four Cycle Gas Engines are whirring 'round and 'round—there producers and lease men know the worth of sustained power. They have Type B engines pulling alike, with the ease which tells of balance and reserve strength, loads that are continuously heavy or widely irregular. Turning over smoothly and steadily, day after day, year in and year out, their Type B engines do the work with a quiet power that produces efficiency and economy along with the oil.

Reid

Ask for Catalog No. 46

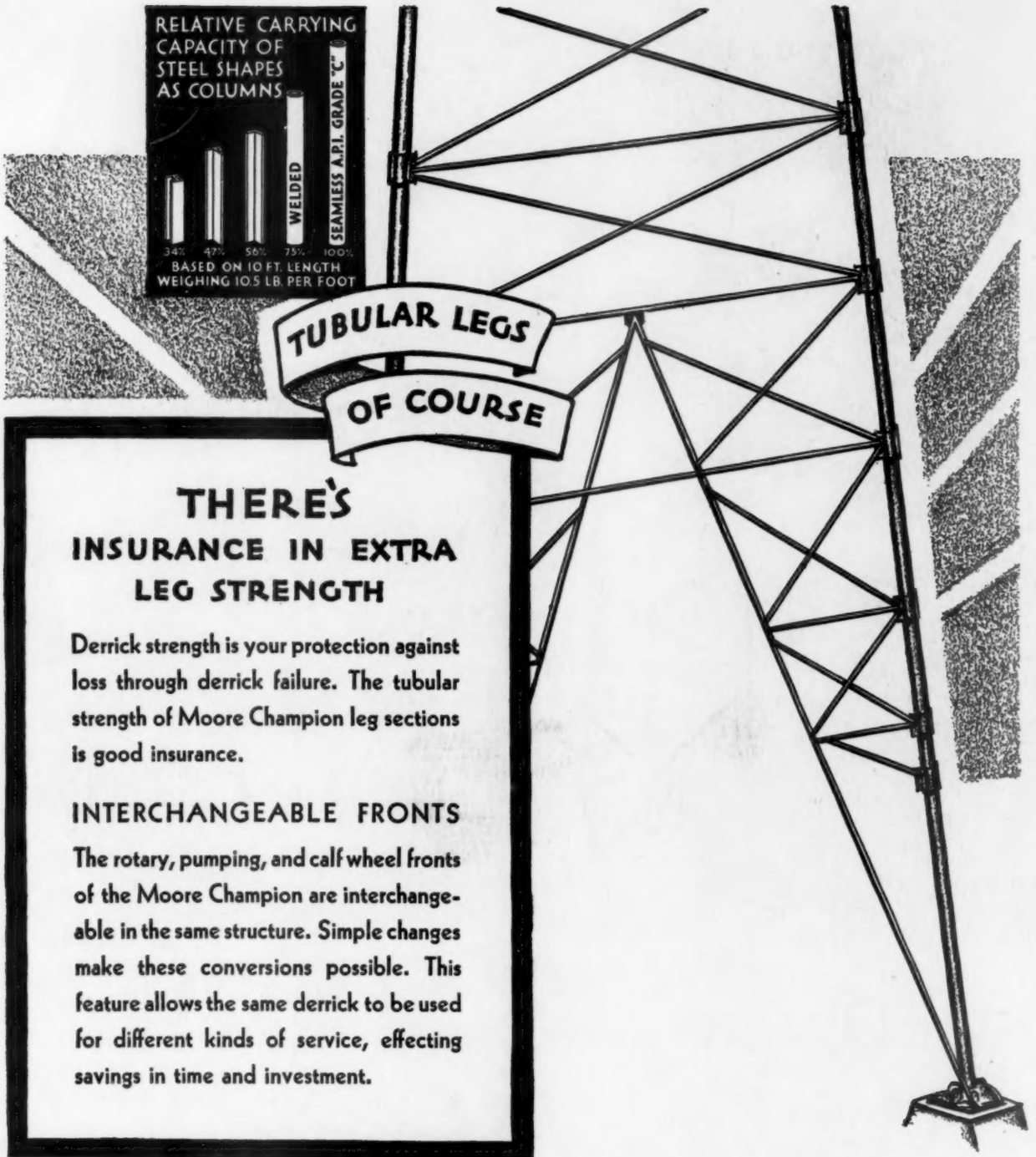
JOSEPH REID GAS ENGINE COMPANY
OIL CITY, PENNSYLVANIA, U. S. A.

BRANCHES—Marietta, Newark, and Logan, Ohio; Charleston, W. Va.; S. R. Shoup, 724 Board of Trade Building, Los Angeles, California.

EXPORT SALES REPRESENTATIVE—Oil Field Equipment Co., Inc., 30 Church Street, New York City.

DISTRIBUTORS—Frick-Reid Supply Corp., Pittsburgh, Pa., and Tulsa, Okla., Distributors for Bradford and Pittsburgh, Pa., Muskegon and Mt. Pleasant, Mich., Kentucky, Oklahoma, Kansas, Texas, Arkansas, Louisiana, and Wyoming; R. B. Moore, Bolivar, N. Y.; distributed in California by The Republic Supply Co. of California, Los Angeles, Cal.

TUBULAR LEGS
OF COURSE
THE Moore
Champion
DERRICK



THERE'S INSURANCE IN EXTRA LEG STRENGTH

Derrick strength is your protection against loss through derrick failure. The tubular strength of Moore Champion leg sections is good insurance.

INTERCHANGEABLE FRONTS

The rotary, pumping, and calf wheel fronts of the Moore Champion are interchangeable in the same structure. Simple changes make these conversions possible. This feature allows the same derrick to be used for different kinds of service, effecting savings in time and investment.

THE Moore Champion DERRICK

Moore ALL STEEL RIG EQUIPMENT

LEE C. MOORE AND COMPANY, INC.
PITTSBURGH Established 1907 TULSA

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DALLAS, TEXAS WICHITA, KANSAS CASPER, WYO.
SHREVEPORT, LA. HOUSTON, TEXAS
Stocks in All Principal Fields

5 BETTIS more uses *for* Bettis Protectors

FULLY PATENTED

In addition to protecting the drill pipe and casing against abrasion, Bettis Protectors can be used to advantage for new services to still further reduce the cost of drilling and increase the production life of your wells. Consider these new uses. Ask for further information.

"Best bet yet"

1. On Kelly Sub

—to stabilize and reduce whipping.

2. On Cement Job

—to center when drilling out plug.

3. On Perforated Liner

—to keep liner in center of hole and allow free oil flow around all sides.

4. On Casing in Cement Job

—to center casing so that cement wall thickness will be even.

5. For Stabilizing Inside Stove Pipe

—for use on drill pipe inside large diameter stove pipe to stabilize.

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Advertising has won for itself a place on this continent which it enjoys nowhere else and the advertiser and advertising agent and publisher members of the Audit Bureau of Circulations—and they comprise the dominating element in the advertising field of the United States and Canada—consider that this prosperity is based largely on the confidence fostered by this association.

National advertisers need deal with no publisher who fails to present a detailed and authentic survey of his circulation, bearing the stamp of the A. B. C., a stamp placed after impartial investigation. Most local advertisers are in the same position. The A. B. C. membership includes nearly fifteen hundred publications, circulating in every corner of the continent, north of the Rio Grande.

Through the A. B. C., a steady stream of circulation information is constantly flowing into the hands of advertisers and advertising agents. As of March 31 and September 30 each year, the newspaper members present sworn publisher's statements, giving their circulation statistics for the preceding six-month periods. The magazine, business paper and farm paper members present their semi-annual statements as of June 30 and December 31.

Fifty traveling auditors of the Bureau visit the publisher members once a year and examine the documentary evidence behind their circulation claims.

Audit reports present no opinions. They are based on documentary proof and are as accurate as it is humanly possible to make them.

With the semi-annual publisher's statements, checked and amplified by the annual audit reports, the advertiser can learn throughout the year fully and accurately just what A. B. C. publishers have to offer in the way of circulations when they solicit his business.

THE GULF PUBLISHING COMPANY

HOUSTON, TEXAS

Publishers

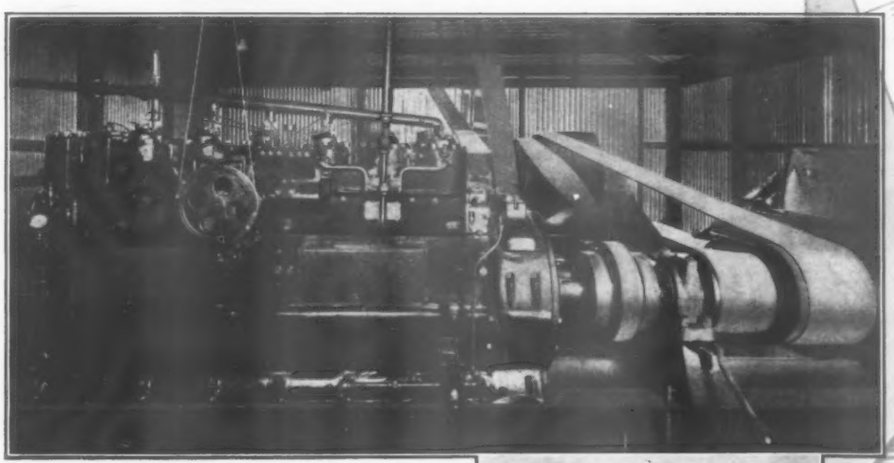
The OIL WEEKLY *The* PETROLEUM MARKETER

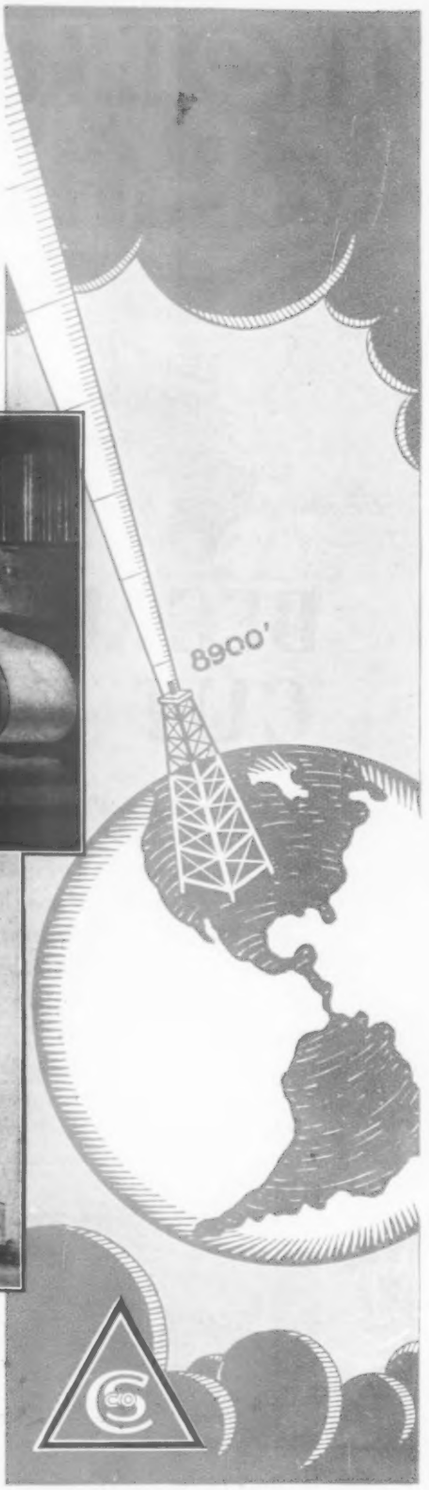
The REFINER & NATURAL GASOLINE MANUFACTURER

Our publications are all members of The Audit Bureau of Circulations. Our Circulation statements are verified by trained auditors of the Bureau.

WORLD'S DEEPEST CABLE TOOL HOLE

DRILLED WITH FAIRBANKS-MORSE DIESEL DRILLING ENGINE





One of these engines recently completed an 8900 ft. hole in 167 days actual drilling time in west Texas, which is a **World's Record Depth** for Cable Tool Drilling.

The engine shown above is in service in Ector County, Texas, owned by contractor who has over a dozen of these engines

"If Continental Sells It....There Is No Better"

THE CONTINENTAL SUPPLY COMPANY

General Offices: ST. LOUIS J633A

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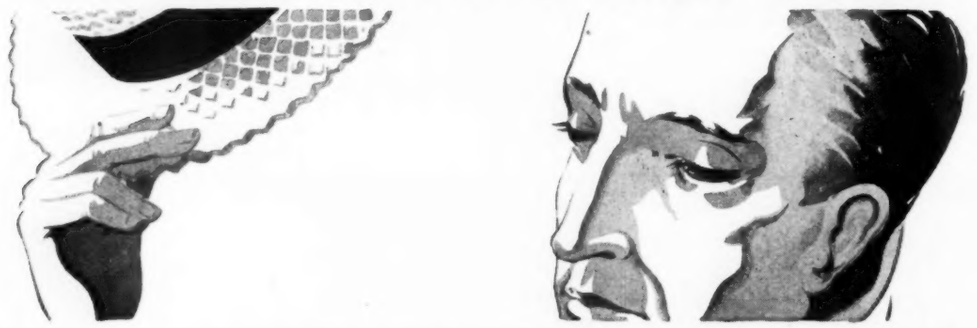
CONTINENTAL

They Take off Their Hats to ClarK "SUPER 2s"



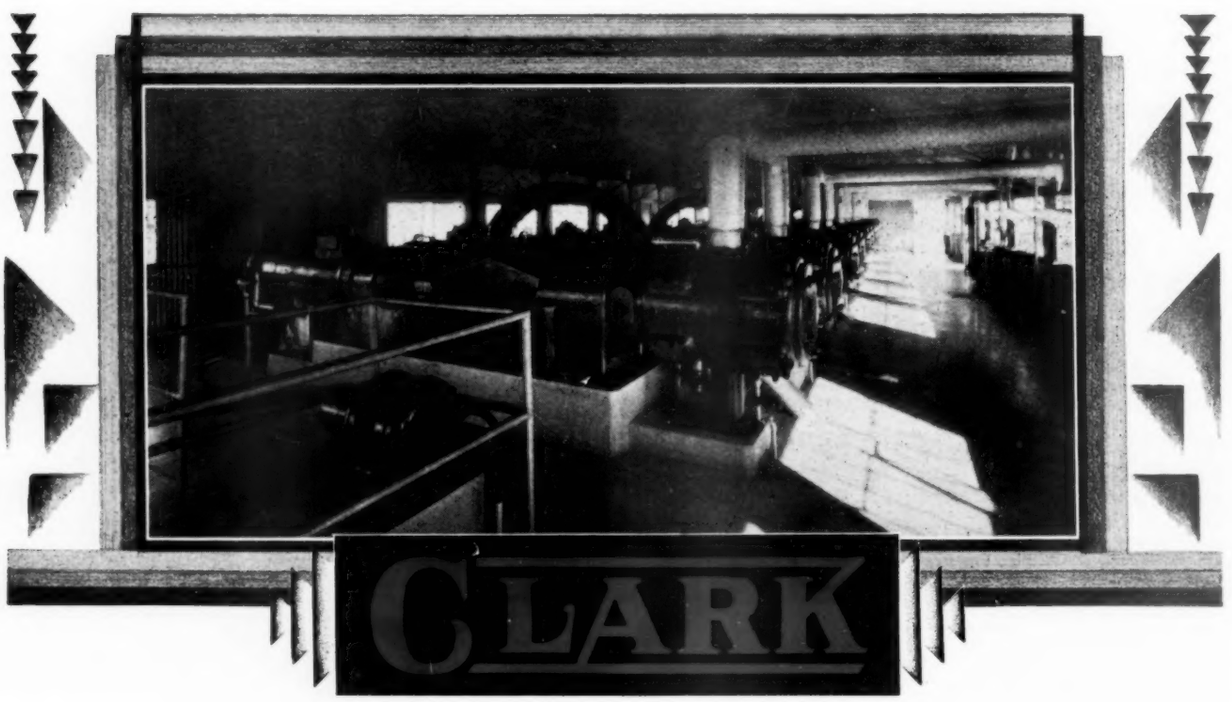
BECAUSE THESE ENGINES CUT DOWN EXPENSES

CLARK "Super 2" Compressors are going into more and more of the new plants because operators know from happy experience that these machines combine outstanding *fuel economy* with exceptional *maintenance economy*. There's mighty little overhead in a Clark-equipped plant.

Shown below are 200 H.P. Twin Engine Super 2s in the Shamrock Oil Co. plant at McLean, Texas. Super 2s, with single-acting or double-acting power cylinders, are built in 100 H.P. to 400 H.P. sizes.

CLARK BROS. COMPANY...Olean, N.Y.

Export Office: 150 Broadway, New York City. Mid-Continent Sales Offices: Tulsa and Fort Worth. Warehouses: Tulsa, Oklahoma; McCamey and Sweetwater, Texas; Artesia, New Mexico. California: Smith, Booth, Usher Company, 228 S. Central Ave., Los Angeles.



A Gulf Publishing Company Publication

The OIL WEEKLY

Member Audit Bureau of Circulations

JUNE 20, 1930

VOLUME 58, No. 1

Edited Weekly at Houston, Texas

SPENCER W. ROBINSON, EDITOR

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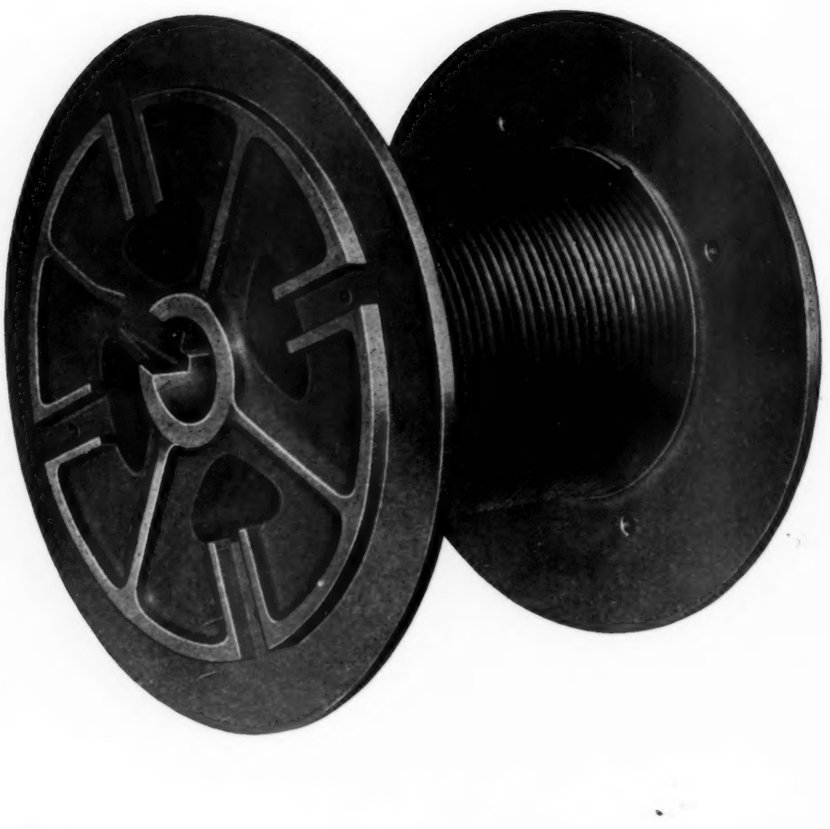
The One-Piece Balanced Drum

is an exclusive feature found only in the New Imperial No. 9 and No. 7 Rotary Hoists.



It minimizes vibration and prolongs the life of the hoist

1268

OIL WELL SUPPLY CO.

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Volume 58, No. 1 *June 20, 1930*

The OIL WEEKLY

A GULF PUBLISHING COMPANY PUBLICATION

Gulf Line, Oklahoma East, Will Serve New Refineries

PITTSBURGH.—A pipe line from Perryman, Oklahoma, near Tulsa, to Pittsburgh, of a size yet to be announced, will be constructed by Union Gulf Corporation, a newly formed Gulf Oil Corporation subsidiary, and work will start on it immediately.

Three new refineries to be added to the Gulf Refining Company string of plants will be served by the new pipe line. One will be erected at Cincinnatti and one at Pittsburgh, and a third at Toledo. Gulf Refining Company recently purchased the Paragon Refinery Company at Toledo.

The new line will be welded. Its length will be approximately 1000 miles, although definite mileage has not been announced. At its western terminus it will tie into the Mid-Continent pipe line system of Gulf Pipe Line Company.

Apparently the announcement of the new line will set at rest definitely rumors of merger between Gulf Oil Corporation and Standard Oil Company of Indiana, which rumors have come up intermittently for several years.

The last paragraph of President Mellon's statement, issued last week, in which he says in part: "It will also enable the company to reach economically territory which it does not serve" is significant.

Mr. Mellon's statement follows:

"The plan of Union Gulf Corporation is considered by directors of Gulf Oil Corporation to be the most convenient and economical means to enable Gulf Oil Corporation to utilize fully the large production of its subsidiaries in Mid-Continent, Louisiana, Arkansas and Texas fields in directly supplying the company's present marketing facilities and to promote the growth and expansion of the company's business in the territory east of the Mississippi River, particularly in western Pennsylvania and in the states bordering on Ohio River and the Great Lakes.

"The new pipe line to be built from eastern Oklahoma to serve the new refineries to be erected at Pittsburgh, Cincinnati and Toledo will connect with the Gulf Corporation's general pipe line system near Tulsa. In view of existing freight rates, this should mean a very substantial saving over the Gulf Oil Corporation's present method of shipping refined products by rail from its present refineries into the territory east of the Mississippi River. It also will enable the company to reach economically territory which it does not serve."

Showing recent development of pipe lines from the Mid-Continent to the East. The red lines show how the new project of Gulf Oil Corporation will connect with principal existing lines of Gulf Pipe Line Company in the Southwest. The black lines show recently announced Ajax Pipe Line Company's system to connect with old lines in the East.

Long Beach Waste Handled By Unit Disposal System*

By BRAD MILLS
Staff Representative

DISPOSITION in less than three and one-half years of 60,000,000 barrels rotary mud, tank bottoms and general field waste, usually referred to as waste water, at a cost of less than one-half cent per barrel has been made in the Long Beach field by Oil Operators, Incorporated, a non-profit organization composed of practically all operators, this record surpassing in both volume and economy that of any other waste water disposal system in California. The organization is successfully handling all field waste by running it through a vast system of field gathering lines to a series of sumps located near the field. Before the system was completed, individual operators were endeavoring to handle their own waste, but much trouble resulted from the practice and a unit plan was voted the most logical solution to the problem.

The gathering system covers the entire field. The main line is of four-, six-, eight-, and 12-inch construction and is fed by many smaller laterals. Maximum capacity of the system is about 100,000 barrels daily under the nominal pressure carried. Each operator is required to pump his own waste into the system, resulting in a line pressure of about 50 pounds on the 12-inch line leading to the settling basins. The system is now handling between 70,000 and 75,000 barrels of waste water daily, this total representing both field development and operation of producing wells, dehydrating units and natural gasoline plants.

The corporation has no capital stock, membership being based upon payment of a certain sum for each well, gasoline plant or commercial dehydrating unit placed on the line. Originally this amount was $100 for each connection but the expansion of the system has made it necessary to increase the price of a membership for each well to $400. No annual dues are collected, but it is within the rights of the board of directors to call upon members for money which is needed for improvements or expansion. Indebtedness up to $5000 may be incurred by the board without the consent of members. Memberships are transferable upon payment of $5 transfer charges. The by-laws have been changed slightly to facilitate operation of the system during the past two years.

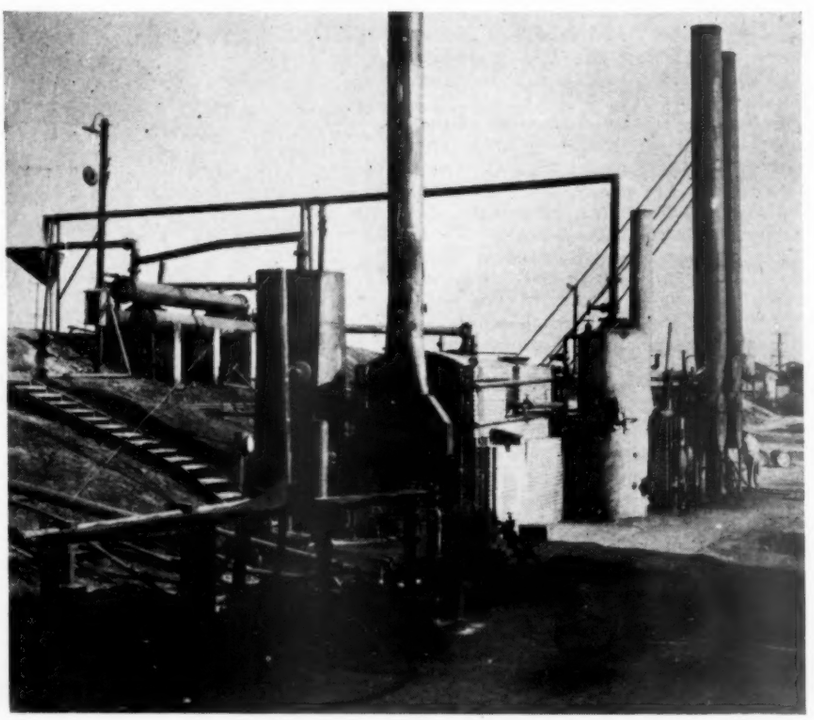
For about three years all waste water was allowed to flow directly into one of several settling basins, but recently a large frame dewatering hopper was placed in operation. Although this installation is too small to carry out completely the principle involved, it has greatly facilitated handling of the large field discharge through the 12-inch line. The chief function of this dewaterer is to separate the mud from the water and oil so that it will be necessary to concentrate.

Flow Drops Into Hoppers

After passing over the fourth and level table, the flow drops down into a series of settling traps or hoppers. Small pipes or bleeders lead from the bottom of these settling basins, carrying away most of the mud which is constantly settling out. The fluid, not being able to escape through the bleeders or mud lines as fast as it enters the series of hoppers, flows over baffles and finally leaves the frame dewaterer, by way of a wooden trough. The fluid leaving through the trough contains nearly all of the water and oil, but a large quantity of mud is also present, because the dewaterer is too small to effect a complete separation. The first bleeder naturally carries the largest quantity of mud, but each succeeding one gets a good portion of the heavy waste. The constant agitation and gravity pressure are enough to force the mud through the small bleeders and spray it through small swage nipples a good distance from the discharge.

Construction of the dewaterer was in the nature of an experiment but the arrangement has been a success, even if the flow has not been retarded sufficiently to accomplish an almost complete separation. The coarse screen ahead of the first table catches rocks, rubber, iron, sticks, old gloves and other trash which would not pass through the bleeders. Engineers who designed the dewaterer believe that if the capacity was sufficient to allow a very slow flow, separation would be nearly ideal. With the present installation, the overflow into the wooden trough is of such proportions that much of the mud leaves with the oil and water.

A series of settling basins are used for recovering the oil contained in the



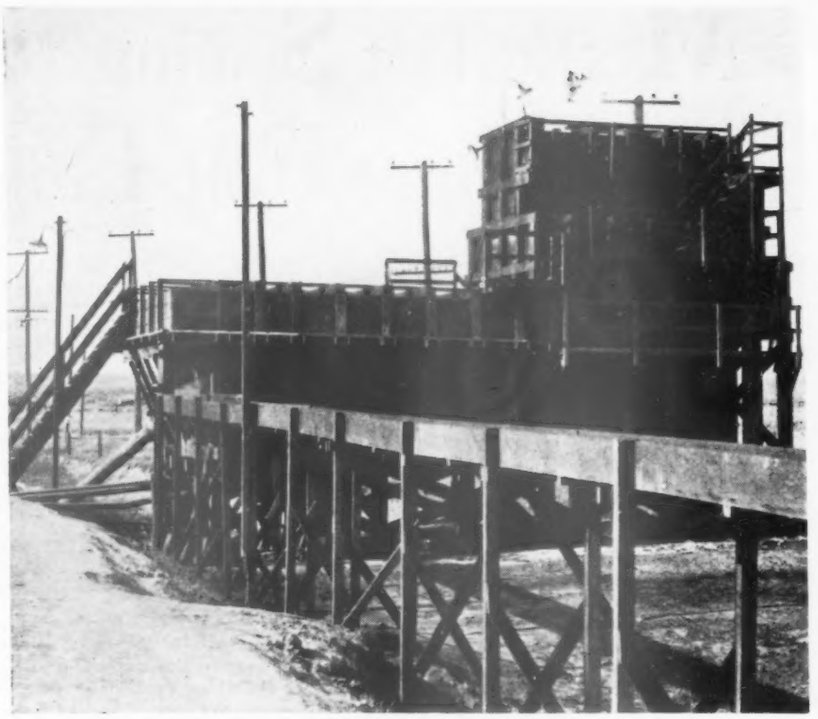
Dewaterer built to separate mud from water and oil

*Due to mechanical error, the accompanying text appeared in The Oil Weekly, June 13, 1930, page 26-27 under the incorrect heading "Individual Meters for Lease Gauging."

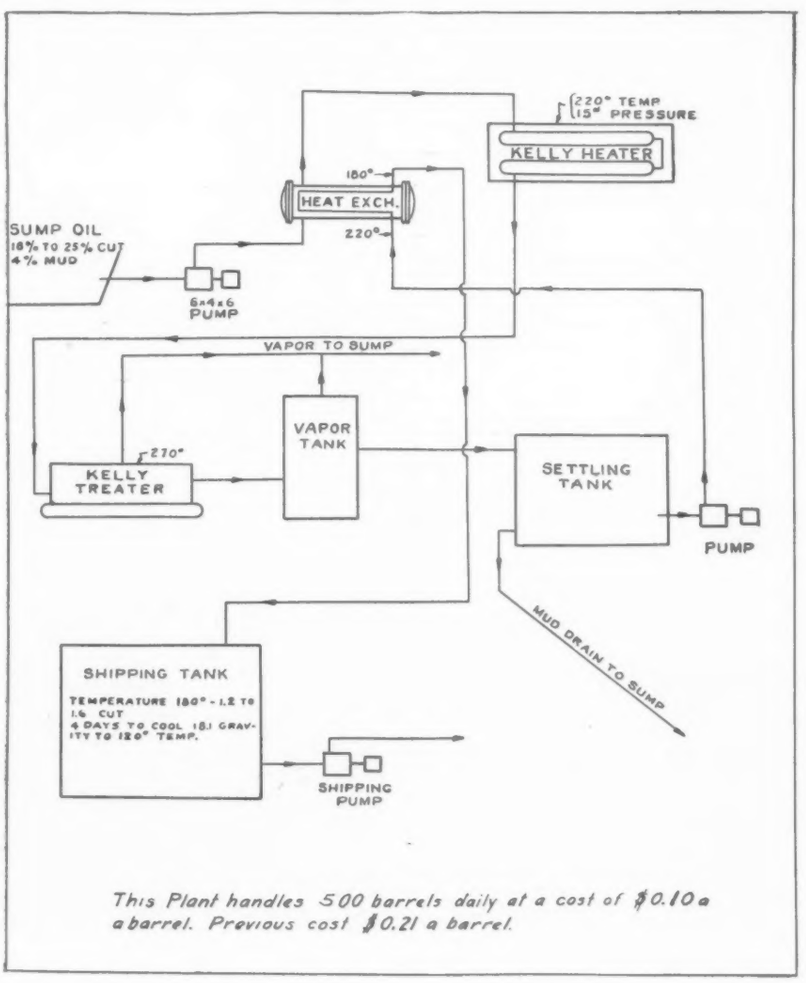
waste and for cleaning the water before releasing it. Originally 14 acres were acquired by the organization, but additions have been made until 140 acres are used. Usually a series of three basins are used for cleaning the oil, with several others on the line to insure the release of clean water. The overflow from the dewaterer flows into a large sump, the top of this being skimmed and run into a second sump. The oil is skimmed from this sump and run into a third sump before being treated. Even with present precautions, the oil recovered from the third sump shows a cut of about 25 per cent. The operation is equivalent to a triple skimming process. Water is released from the bottoms of the sumps and is clean after five or six changes. The sun is the best dehydrator, the quality of both the oil and water being governed largely by weather conditions.

Change Treating Method

The method of treating the oil to obtain a pipe line product has been changed since the original installation was made. The sump oil showing a cut ranging from 18 to 26 per cent is picked up by a 6 x 4 x 6 pump and sent through a heat exchanger to a Kelly heater operating at a temperature of 220°F. and a pressure of 15 pounds. It then goes to a Kelly treater and is raised to a temperature of 270°F. Vapor from the treater is taken to the sump, while the main flow next goes to the vapor tank, from which vapor also goes to the sump. From the vapor tank the fluid is sent to the settling tank, being picked up here by a small pump and sent to the heat exchangers at a temperature of 220°F. The finished product leaves the heat exchangers at 180°F. for the shipping tank. This oil is about 18.2 gravity and shows an average cut of 1.4 per cent. It is allowed four days to cool to a temperature of about 120°F. before shipping. The plant will handle 1000 barrels of oil daily, but present output is about 700 barrels. Cost of cleaning the oil is about five cents per barrel when 500 barrels are treated. The installation is simple but effective for the purpose.



Cleaning Plant



This Plant handles 500 barrels daily at a cost of $0.10 a barrel. Previous cost $0.21 a barrel.

The oil recovery is about one per cent of the waste received, average price received for the product sold being 50 cents per barrel. The oil is used for fuel oil and road oil. The value of the oil sold is enough to pay most of the operating costs. About 400,000 barrels of oil has been recovered and sold for more than $200,000.

A small chemical company is purchasing the water and removing iodine and certain mineral salts from it. The revenue has been comparatively small from this source, however.

Rapid filling of the huge sumps has been a difficult problem to solve. For nearly three years the waste flowed directly into one of the sumps. This created a puffy mud which filled the sumps prematurely. Installation of the dewaterer is allowing the soft mud to settle and has made the need for more room less acute.

Method of Sealing the Seams of Aluminum Foil Tank Coatings

By STANLEY GILL
Gulf Oil Company, Research Department

IN connection with the application of aluminum foil to the outside of roofs of oil storage tanks, some difficulty has been experienced with the seams or laps at the junction of the strips of foil. These seams, if not properly treated, may be blown up by the wind, giving the job a rather poor appearance or may be penetrated by moisture, resulting in corrosion of the tank steel beneath the foil. In our work on foiling, we have used a number of methods for treating these seam-laps. Among the methods which have been used, the following may be listed:

A. The seam-laps may be stuck together by the use of cold application adhesives. The first method of application used for this purpose involved turning back the seam-laps after the foil had been stuck to the tank surface, painting these laps with adhesive, allowing the adhesive to dry and then pushing down the laps. A black asphaltic adhesive was first used for this purpose. Later, attempts were made to do the same job with various clear adhesive materials, since some of the asphalt adhesive was smeared on the tanks. It was found that a satisfactory job could not be done by this method, regardless of the adhesive used. The reason for this lies in the fact that when the foil is turned back, it undergoes a permanent elongation and cannot be laid back in position without wrinkles. Also, the elasticity of the foil causes seam-laps applied in this manner to be under a strain which tends to pull them open.

B. A better method of using cold adhesives for taking care of the seam-laps is to paint along the edges of the foil as it is applied. When they have dried sufficiently, the seam laps can be pushed together and stuck, thus obviating the necessity of turning back the foil. This procedure is fairly satisfactory, but the labor cost is somewhat high and there is some difficulty in making certain that the adhesive is properly dried before the laps are stuck.

C. Attempts were made to apply roofs in which the seam-laps were not stuck at all. It was thought that if a sufficiently narrow lap (less than one-quarter-inch) was allowed, the strength of the foil itself would keep it from being blown by the wind. This method was abandoned

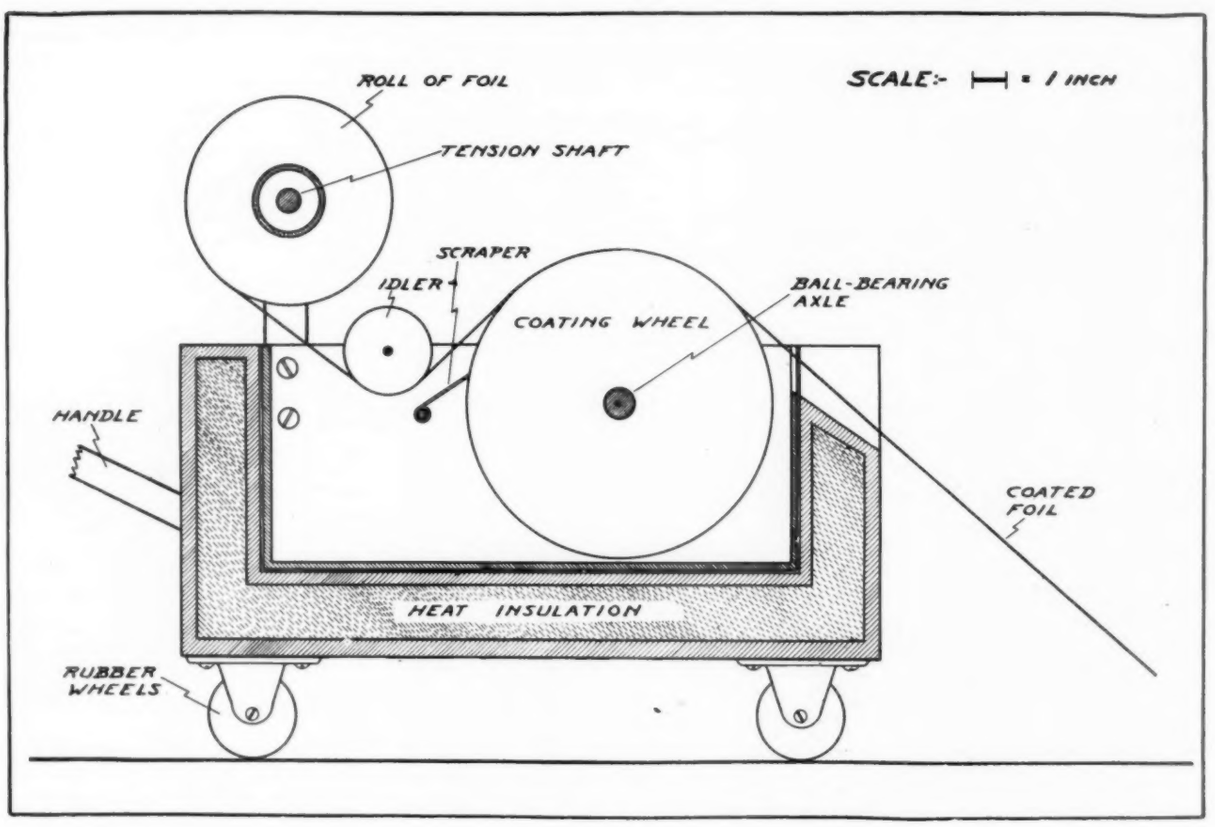


FIGURE 1

Figure 1 is a detail drawing showing construction and operation of the machine shown in Figure 2 which is a close-up of the strip of foil receiving the adhesive. More of the method of application is revealed in Figure 3

FIGURE 3

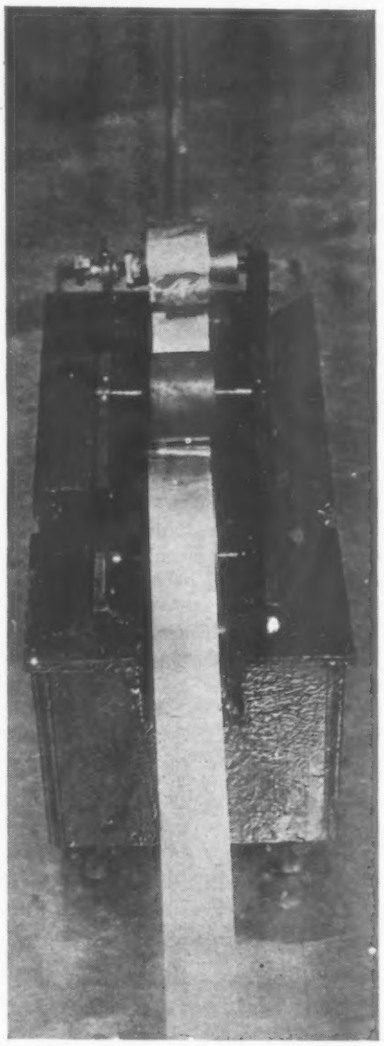


FIGURE 2

as impractical; first, because it was not found possible to maintain a sufficiently narrow lap and, second, because of the danger of moisture penetration through the uncemented seams.

D. In our early work on foiling, numerous types of crimped seams similar to those used in sheet metal work were investigated. In making these up, the edges of adjoining strips of foil were folded together and mashed down, both with and without the use of foiling adhesives. These methods also were found to be impractical. The labor cost was extremely high and very accurate application of the foil was necessary. Both of these objections could, of course, be overcome by proper mechanical means of application of the foil and crimping of the joints. A more serious objection lies in the fact that the elasticity of the foil before referred to makes it extremely difficult to keep such seams tight. Tight crimped seams could be obtained by the use of suitable adhesives but the method is probably impractical.

E. The best method which we have developed up to the present time is to apply a narrow strip of foil over the seams between the wide strips used in coating the roof, using a molten bituminous adhesive material. By this means, the seam laps are completely sealed against the penetration of moisture and the tightly stuck strips over the seams give the finished job an excellent appearance.

The construction of the apparatus which we have developed for the application of these strips is shown in Figure 1. The apparatus is set within an insulated wooden box which is mounted upon rubber wheels. The hot molten bituminous adhesive is carried to the top of the tank in an insulated carrying can and poured into a metal box. The coating wheel, a heavy metal wheel which is mounted upon a ball bearing axle, dips beneath the surface of the hot bitumen. Foil from a roll mounted on the apparatus passes over an idler pulley to the coating wheel and then to the tank. As the apparatus is pulled over the tank, the coating wheel is rotated by the foil and picks up the hot bitumen, continually coating the foil strip. The only critical point involved in the design of the apparatus is the coating wheel, which must be carefully balanced and mounted to insure easy rotation. It is also essential that this coating wheel should be rather heavy, in order that it may retain the heat of the adhesive and apply a coating of proper thickness. The wheel used in the apparatus shown is made of brass and weighs approximately 15 pounds. It is mounted in ball bearings and carefully balanced, and applies an excellent coating to the strip of foil. The construction of the device is illustrated further in Figure 2 and the method of applying the foil strip is shown in Figure 3.

Application of foil strips using this apparatus is simple and inexpensive. A crew of four men—one heating adhesive, one carrying adhesive to the tank, one pulling the coating apparatus and one pushing down the foil strips behind the apparatus—can strip completely the foiled roof of a 120-foot tank in five or six hours. The appearance of the completed jobs is extremely attractive and the sealing off of the seams is apparently perfect.

We do not feel that this method of application can be successfully applied to wide strips of foil, where cold adhesive materials still afford the most satisfactory method of foil application, but the use of such a device for sealing the seam laps has been found to give excellent results.

Royal Dutch Annual Report Reviews World Conditions

ROYAL Dutch Company for the working of petroleum wells in the Netherlands Indies, in the report of earnings for 1929, contains much interesting information on the condition of the petroleum industry abroad.

The balance sheet was to be presented for ratification at a meeting of shareholders held at The Hague, June 27, 1930. After an interim dividend of 10 per cent declared in January, 1930, on the ordinary share capital outstanding on December 31, 1929, a further dividend of 14 per cent is available to be paid on share capital of £503,624,000. The holders of priority share have already received 4½ per cent.

The report includes a listing of the world's petroleum production as follows:

	1929 Metric tons	1928 Metric tons
United States of America	141,992,032	127,152,006
Venezuela	20,367,105	15,590,070
Russia (according to statistics not verified)	14,256,584	12,285,046
Mexico	6,821,707	7,654,852
Persia	6,022,092	5,600,138
Dutch East Indies	5,100,000	4,200,000
Roumania	4,827,278	4,509,787
Colombia	2,836,371	2,768,581
Peru	1,811,596	1,617,742
Trinidad	1,344,833	1,182,953
Argentina	1,259,302	1,302,214
India	1,170,374	1,146,821
Sarawak	760,166	751,092
Poland	693,018	773,762
Japan	287,636	257,581
Egypt	271,520	268,461
Other countries	835,146	613,328
	210,656,760	187,674,434

Referring to companies considered subsidiaries of Royal Dutch Company, or otherwise affiliated with it, production in the several countries was as follows:

	—Metric Tons— 1929	1928
Dutch East Indies	4,746,426	3,971,043
Sarawak	760,166	751,092
Egypt	271,520	268,461
Roumania	852,372	705,854
Mexico		
Corona	363,361	528,979
Aguila	1,689,564	893,681
Venezuela	8,799,547	7,125,339
Trinidad	102,800	65,187
United States (Shell Petroleum Corp.)	3,602,835	3,890,767
(Shell Oil Co.)	3,980,717	3,812,233
Argentina	15,079	50,773
	25,184,387	22,063,411

The report includes the listing of material improvements made by the parent company and operating subsidiaries. During 1929 the most modern methods have been applied both in production and in refining, while by a systematic exchange of data between the various installations all over the world these have been kept entirely up to date. The plant at Velsen, Holland, for the manufacture of fertilizers, has been brought into operation at full capacity and the products manufactured have found a ready sale. A similar plant is being built in California, where the natural gas from the field constitutes an important basic material. Various other chemical products will also be manufactured from the surplus gas.

A working arrangement has been effected whereby Royal Dutch Company will assist in the development of the hydrogenation process of petroleum production, and an exchange of experiences has been arranged. By combining with other interested parties, some of which are largely large chemical industries, all further inventions and improvements will be concentrated in one central body.

During the year the fleet employed by the group, consisting of approximately 2,000,000 tons, transported 16,000,000 tons, including 2,875,000 tons hauled by Eagle Oil Transport Company, Ltd. Toward the close of the year orders were placed for seven small motor ships of 2000 and 3600 tons loading capacity.

Crude oil production of the company and operating subsidiaries in the several areas amounted to:

	—Metric Tons— 1929	1928
Sumatra	1,138,068	758,224
Borneo (excl. Tarakan)	1,621,626	1,348,385
Tarakan	1,171,700	1,304,399
Java	620,988	455,086
Ceram	45,172	40,305
N.I.A.M. fields	148,872	64,646
	4,746,426	3,971,045

Production in all other fields follows:

N.I.A.M. Djambi

	Metric Tons	
Badjoebang	88,350	37,568
Betoeng	38,270	26,622
Total	126,620	64,190

"Toward the end of the year under review," according to the report, "there were six wells in production at Badjoebang, producing in all 577 cubic metres per 24 hours.

"Exploitation of the shallow wells at Betoeng was continued. The deep exploration boring reached at the end of the year a depth of 2269 metres.

"Exploration drilling on the Meleboeai, Tempino, Menkanding and Kenali Assam fields was likewise continued.

Aroebaai Fields

Production:	1929	1928
	22,240	400 metric tons.

Boenjoe

"The well sunk in Boenjoe was brought in in October 1929 with 180 cubic metres oil per day; it has been temporarily shut in until the means of transportation are ready.

Sarawak

"The crude oil production of Sarawak has again increased. In 1929 it amounted to 760,166 metric tons, as against 751,092 metric tons in 1928.

Egypt

"The 1929 production in Egypt was 271,520 metric tons (1928—268,461 tons).

Roumania

"The total net production of the entire Roumanian oil industry in 1929 reached a new record, viz. 4,827,278 metric tons, an increase of about 13 per cent. The number of metres drilled in 1929 was 307,936.

"This increase in production is to be ascribed partly to the opening up of new layers in existing wells, but it is also the direct consequence of the more intensive drilling activity throughout the year, the total depth drilled having exceeded that in 1928 by 25 per cent.

"This continually increasing activity in Roumania is a phenomenon which may lead in the future to consequences detrimental to the industry. Up to the present nothing has been done in Roumania to follow the example of other countries where producers have made many efforts to cooperate in matters of drilling and production in order to avoid unnecessary expense in drilling an excessive number of wells and in this way to preserve the country's oil reserves.

Russia

"Attention should be drawn to the enormous funds invested in commercial facilities belonging to us (Royal Dutch Company) which have been confiscated in

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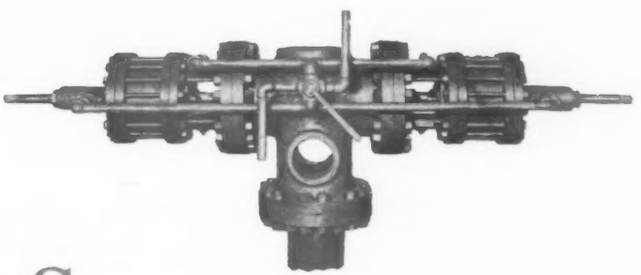

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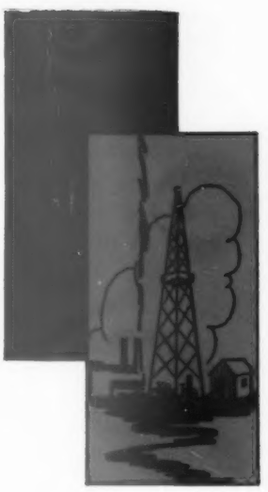

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Russia without any compensation being made (Bnito, Mazout and Standard Russe).

"The production in Russia in 1929 was: 14,256,584 tons.

"In the same period we have raised the production in the Dutch East Indies from 1,678,859 tons in 1916 to 4,746,426 tons in 1929, whilst the Roumanian producers have increased their production from 1,885,619 tons in 1913 (therefore before the war) to 4,827,278 tons in 1929 (in 1916 the production was 898,994 tons).

"Considering what has been done in other countries the results obtained by the Soviet government with their rich fields are very poor indeed.

"We have every reason to believe that notwithstanding the confiscation of hundreds of millions the financial results of this state industry compare very unfavorably with those of our private enterprise.

"The export of petroleum products from Russia on the present scale can still only be made possible by withholding from the Russian consumers what they themselves so urgently need.

United States

"The figures for the gross crude oil production of the companies belonging to our group were:

	—Metric Tons—	
	1929	1928
Shell Petroleum Corporation	3,602,835	3,890,767
Shell Oil Company . . .	3,980,717	3,812,233
	7,583,552	7,703,000

"By restricting production on their fields these companies continued to cooperate in the endeavor to check the overproduction in the United States.

"In the meantime the exploration activities of Shell Petroleum Corporation and Shell Oil Company have led to the acquisition of new and valuable crude oil reserves.

Mexico

"The taxes burdening the petroleum industry are still too heavy and would have to be considerably lightened to enable Mexico to compete successfully with other producing countries on the world market.

"La Corona:

"The production of La Corona during the past year amounted to 363,361 metric tons, against 528,979 tons in 1928.

"An arrangement was made with the Aguila whereby that company took over the shares of the 'Cia. Mex. Holl, La Corona, S.A.' in exchange for two million ordinary shares in the Aguila; this will lead to an appreciable saving in the total working expenses.

"El Aguila (Mexican Eagle):

"The total production during 1929 was 1,689,564 tons, against 893,681 tons in 1928. The Tonala field (S.E. Mexico) came up to expectation and produced in the past year 827,078 tons.

"Modernization of the refinery at Minatitlan, the capacity of which has been increased to 20,000 barrels per day, was continued.

Curacao

"Considerable additions were made to tank parks, where an increasing need was felt for more storage capacity for products as well as for crude oil. Total storage capacity is now 1,840,600 metric tons.

"The benzine installation at Bullenbaai has also been enlarged.

"In view of the housing accommodations for the personnel at Negropont becoming inadequate, an extensive building program has been taken in hand for the erection of a block of houses on the 'Groot Piscadera' estate situated to the northwest of Emmastad.

"Caribbean Petroleum Company's crude oil production amounted to:

1929	1928
2,330,341	2,040,759 metric tons.

"The exploration well drilled to test the light oil layer was brought in at the end of the year with the very considerable initial production of about 1500 tons per day, whereby the favorable expectations as to the production from this layer have materialized.

"The necessary additions and improvements have been made all around.

Venezuelan Oil Concessions, Ltd.

Production: 1929 1928

6,469,206 5,084,580 metric tons.

"Where necessary the pumping stations have been enlarged and improved, and the most modern appliances have been introduced to obtain the most efficient and economic operation.

"Work has been begun on the drainage of the extensive swamps in the Lagunillas field.

Colon Oil Corporation

"The pipe line from the Colon district to the Lake of Maracaibo was almost completed in 1929, as well as the building of a loading jetty on the lake shore.

"The pumping and shipping of the oil production was begun early in 1930.

Trinidad

"The figures for the Trinidad production were:

1929	1928
102,800	65,187 metric tons.

"By more intensive drilling and the opening up of new oil-bearing layers better production has been obtained.

"Operation of the Edeleanu plant erected at Point Fortin for improving the quality of kerosene was started and is fully justifying the hopes entertained of it.

Argentina

"The crude oil production in 1929 was only 15,079 tons as against 50,773 tons in 1928; the potential production today is estimated at over 350,000 tons per annum and the low production over the year was due to our being obliged to suspend all operations and to close in practically all the wells in consequence of the permit granted early in the year for building a refinery at Buenos Aires being withdrawn shortly after it was signed."

Suspension bridge built by South American Gulf Oil Company, across Labrija River, in Colombia

54" Brake Wheels

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Less braking effort required

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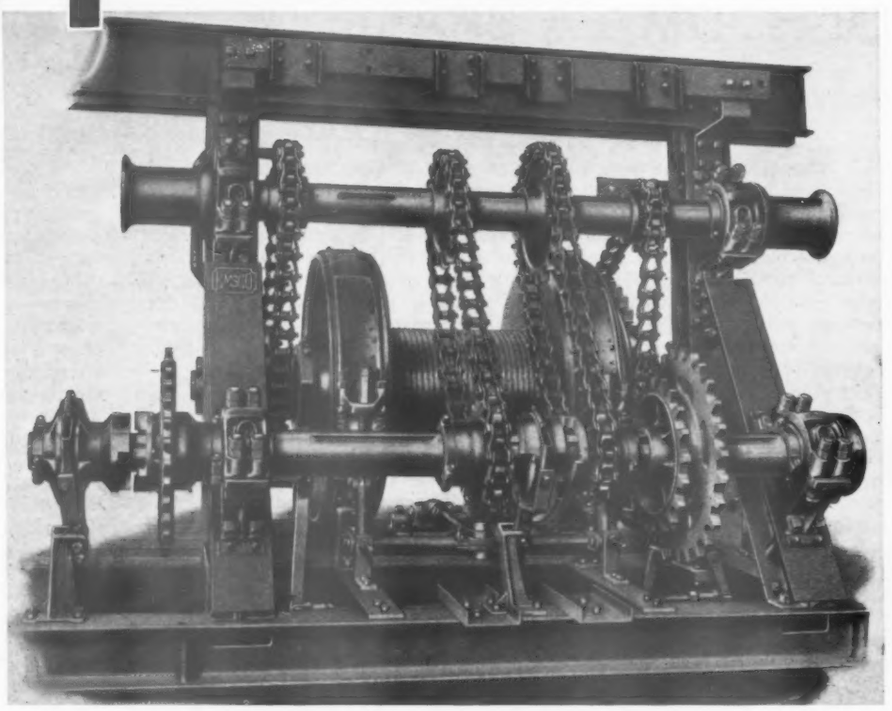

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Admixtures In Rotary Mud

By C. P. PARSONS

Halliburton Oil Well Cementing Company

Paper presented before the May 23, 24, 1930, meeting of the Mid-Continent District of the American Petroleum Institute, Division of Production

SOME natural muds have been very effective in rotary drilling without treatment or use of admixtures and will continue to be so, but every operator has had occasions when deficiency in a natural mud was so obviously bothersome that some treatment or admixture was necessary.

Utmost effectiveness in the use of admixtures and chemical reagents lies in the proper choice and proportioning of suitable materials to make up the difference in quality between the natural mud and what would be considered the ideal drilling fluid for conditions met in a well.

This immediately raises the question, "What is an ideal drilling fluid?"

At the present time, a final answer, specifically defined and capable of universal application, is difficult indeed but in order to assist individual interpretation and to help in definite mud problems, it will be attempted in this paper to present a number of pertinent facts about muds and admixtures.

Unless admixtures are thoroughly understood and proportioned properly, they very often do the opposite to what is intended or they create some other deficiency. For instance, with a natural mud that lacks colloidal quality, if it is excessively treated with an admixture that relies on the water content of the fluid for its action, there is a possibility that the weight might be lowered excessively; and if the fluid is treated to increase colloidal quality by the use of a reagent that relies on chemical reaction with the basic minerals in the natural mud, the use of too much, might kill what colloidal quality the natural mud may have.

If we consider the use of admixtures only as an attempt to improve a mud just beyond the point where its deficiency is obviously bothersome, then it is not necessary to think seriously of an ideal fluid. The practical value of such thought would be to define a fluid that would not only eliminate the obvious conditions, but would assist in many other ways to make faster and straighter hole, a fluid that will be easier on pumps and other parts of the circulating system and will afford protection with a safety factor at all times.

Expensive blow-outs still occur, even in fields where operators apparently spare no expense to drill safely and conservatively; shut-downs are still numerous due to excessive wear on pumps; drill pipe is still occasionally stuck when mud settles out rapidly and many other expensive shut-downs occur in which mud deficiencies are closely related to the cause. In deep drilling areas, these expenses count up rapidly and it is primarily for this deep drilling reason that considerable interest has recently been revived in rotary mud.

It has been reported that mud was used with rotary equipment for drilling water wells in France sixty years ago. Since that time, there have been several periods like the present, in which unusual interest in mud fluids were aroused. Each period is reflected in the writings of the time and has contributed some practical and useful information on the subject.

Functions of Ideal Drilling Fluid

The following is an attempt to describe some functions, besides the usual ones, that may be expected of an ideal rotary drilling fluid:

For drilling in areas of normal pressure, an ideal rotary drilling fluid is one that will have sufficient viscosity and collodial quality which, when combined with the force of velocity, will immediately carry all cuttings away from the bit up to the surface at the same velocity as the mud stream itself; that is free from any abrasive content when it enters the pump suction; that will not settle more than two per cent in 24 hours; that will, upon the stopping of any mechanical agitation or disturbance when withdrawing the drill stem, tend to gel sufficiently to hold all the cuttings in the same place as they were when circulation was stopped, then when again disturbed by running the drill stem, it will return to its original liquid state, having prevented the cuttings from settling when the drill stem is out of the hole; that will be white in color, so that the amount of contamination will be easily indicated; that will be non-corrosive; that will have a very low freezing point, so that it will not freeze in its position behind the casing above the cement in a producing well, if the expansion of gas from high reservoir pressure to low delivery pressures causes a drop in temperature sufficient to freeze and expand the fluid behind the casing and endanger the casing; and that will not lose any of its collodial quality when it comes in contact with briny solutions.

To try to obtain all of the above qualities and the other more obvious ones, might seem like chasing the moon, but a search along those lines has revealed that though no natural clay has been found to fill all of the above requirements, there are scattered materials that could be produced very cheaply and there is sufficient scattered knowledge of chemical and physical treatments that when gathering together could produce an inexpensive processed drilling fluid to meet most, if not all, of the above qualities.

In real deep drilling of the future, it is not unreasonable to assume that these loose ends will have long since been gathered and a hole will be started and finished with an inexpensive processed drilling fluid rather than with a deficient natural mud. There will be automatic devices for instantaneously and continuously recording weight, viscosity and other important factors.

However, at this stage of the game, natural drilling mud is either good or bad and the practice is to eliminate obvious deficiencies either by simple physical treatments such as screening and aerating or by treatment with an admixture or some chemical reagent.

Admixtures and reagents at present have three principal uses: First, as a mud body; second as a colloidal material; third, as a weighting material. Other uses are as a gas liberator and as a lubricant. They will be discussed in their turn.

Rotary Mud Bodies

An ideal mud body admixture is one that will not require more than three times its weight in water to make a ten pound fluid, and which will meet all the conditions already mentioned in this paper.

Very often, a well might produce a good mud, while drilling, but is unable to produce it in sufficient quantities. Mud must be hauled or pumped from some other source or an inexpensive processed mud body be used.

Rotary mud bodies are usually of some form of clay. Most clays are composed chiefly of silica and alumnia. Physically, most clays are soft and unconsolidated and are made up of very fine grains, although some varieties are quite hard. Most clays are plastic when mixed with water. Most flinty clays and hard kaolins have little or no plas-

(Continued on page 79)

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Hobbs Production Possibilities Proven by Important Completions

ARTESIA, New Mexico.—Completion of two producers in the Hobbs field rated at about 10,000 barrels daily each within the past seven days removes all doubt as to the field having production possibilities of far-reaching importance. Shell Petroleum Corporation scored the two completions, which are the first made in the field since last January, from the regular 4200-foot lime horizon, and on separate leases. These new additions to the field are more than one mile from the nearest production, but are located along the trend of play that extends northwest of the discovery well. Temporary pipe line connections are being rushed by Shell Pipe Line Company.

Hobbs field added one mile of productive territory on the northwest end June 16 when Shell Petroleum Corporation's H. D. McKinley 1, located in the SWc section 19-18s-38e, gauged 441 barrels of oil per hour, with an estimated flow of 10,000,000 cubic feet of wet gas daily at 4210 feet. The top of the oil saturated lime is believed to be near the 4050-foot level, and was not accurately determined because the well was drilled and completed with rotary equipment and heavily loaded with mud. A string of three-inch tubing was landed near the bottom of the hole before the well was allowed to flow. The last string of casing consists of seven-inch pipe at 3880 feet. The nearest production is Humble Oil & Refining Company's Bowers 1, which has been averaging above 7200 barrels of 35-36 gravity oil daily since given pipe line connection May 8.

Shell Petroleum Corporation's State 1-A, Section 32, provided the connecting link between the Bowers well and the original section of the field when it was opened for initial gauge on June 11. This well was drilled to 4183 feet, and a string of three-inch tubing at 4164 feet was installed before the initial gauge was procured. It is credited with having made 135 barrels oil, 35 per cent water, during first 15 minutes, and 104 barrels oil, two per cent water during the next 15 minutes. The flow during the third 15 minute period dropped to 90 barrels, including two per cent water, but during the following one-half hour gauge no water appeared when the well made 211 barrels of oil. These flows were made between casing and tubing, and also through tubing in order to clean the hole of a vast amount of water, mud, baroid, cotton seed hulls, etc.

A cavity encountered at 4000-4004 feet on June 2 caused Shell Petroleum Corporation's State 1-A to lose rotary returns, followed by a blowout through the mud line estimated at 2500 barrels oil and 25,000,000 cubic feet of gas daily. The drilling crew fed this cavity for several days before returns were secured and a quantity of cut oil can be expected from the hole until properly cleaned, as the last string of pipe consists of seven-inch at 3850 feet. The gas volume on the open flow test is rated at 37,000,000 cubic feet daily. The well registered 1400 pounds pressure when shut-in to switch the flow of production through the tubing exclusively. Production during the 15-hour period ending June 16 was reported at 2515 barrels, including two hours open and 13 hours through the three-inch tubing. Schroeder Drilling Company, Dallas, drilled both wells for Shell Petroleum Corporation, and has cemented 9⅝-inch casing at 2755 feet on the company's State 2-A.

South Offset Cementing

Amerada Petroleum Corporation's McKinley 1, a south offset to the new producer on the northwest end of the field, has cemented seven-inch casing with 200 sacks of cement at 3851 feet, and State 1, Section 32, is fighting heavy gas and some oil production at 3129-32 feet after having a blowout at the latter depth June 9. Tidal Oil Company's Grimes 1, an interesting outpost test on the northeast flank of the known producing area, obtained a gain increase at 3640 feet, and blew out June 15 at 3670 feet while carrying 18-pound mud. Bass & Champlin, Inc., Enid, Oklahoma, have a turnkey contract in drilling the latter test and Monday, June 16, were pumping a heavy rotary mixture into the hole to try and lubricate off the gas to resume drilling. A new type of rotary mud mixture is being tried out in the field on one of the half dozen active tests of Humble Oil & Refining Company. It is known as "Mud Weight," and is being sold locally through Hercules Supply Company's branch store at Hobbs.

Fighting heavy gas pressure on the northwest end of the Hobbs field with cable tools has been successful so far by Texas Pacific Coal and Oil Company's State 1-G, which was drilling below 3880 feet late last week. Walter Donnelly, Fort Worth contractor, is drilling this test, and is the first to use cable tools in the troublesome gas area. Should no great difficulty develop in completing the well it is quite likely that standard rigs will be used by some operators because of cheaper drilling costs, especially on the mud and fuel expense.

Representatives of all operating companies in the Hobbs field, except two, have tentatively agreed to a proration plan similar to that used so successfully in the past year by Yates field producers. A meeting of lease owners and representatives of the state of New Mexico was held in Dallas June 11, to thrash out the details of the proposed plan of prorating the available pipe line outlet to be given the field. Representatives of Amerada Petroleum Corporation and the George F. Getty Oil Company did not participate in the meeting. The former has a contract to deliver a total of 3,000,000 barrels of crude from its Hobbs field properties at maximum rate of 7500 barrels daily to Atlantic Pipe Line Company as produced, and is the only operator in the field fortified with market protection during the early stages of the development, other than the companies that will have their own lines, such as Humble Oil and Refining Company and Shell Petroleum Corporation. Getty Oil Company is not protected with a market outlet.

Market Outlet 35,000 Barrels

Hobbs field will draw a maximum crude market outlet of 35,000 barrels daily from the three lines definitely assured the field, according to tentative program setup at the Dallas meeting. Atlantic Pipe Line Company, which is at work on a 78-mile eight-inch line from Midland, nominated 15,000 barrels daily, and 10,000 barrels daily each was nominated by Humble Oil & Refining Company and the Shell Petroleum Corporation. The Texas Company and the Pasotex Petroleum Company are likely to invade the field through their pipe line subsidiaries, thus affording a greater market outlet.

Subject to the unanimous approval of all lease owners, the Hobbs field operators are desirous of inaugurating a proration plan for the field effective July 1, or at the earliest date thereafter. It is planned to engage the services of an umpire, and all expense will be borne on a basis of production by the various operators, thus relieving the state of the financial burden. However, the operation and enforcement of the

(Continued on page 66)

Oklahoma Proration Committees Plan Third Quarter Curtailment

By FLOYD SWINDELL
Staff Representative

TULSA.—The state-wide committee on proration met in conjunction with the W. C. Franklin committee on procedure Thursday morning, June 12, pursuant to notice, and examined reports on production and consumption of petroleum and its products and proceeded to examine the proration structure in the state of Oklahoma with the view to outlining a reasonable plan for curtailment of output to approximate the reasonable market demands for Oklahoma crude during the third quarter of 1930.

Without argument, the committee was unanimously agreed that continuation of proration through the third quarter would be absolutely necessary. Most of the discussion, therefore, was directed toward devising a plan that would be equitable as between the various pools in the state and would avoid discrimination in favor of one pool as against another. Realizing the difficulty in arriving at such a plan, the committee went over the entire situation, giving consideration to the claims of each pool, the market outlet for each area, and all of the pertinent facts pertaining to the subject.

It was unanimously agreed that the shut-in time on drilling wells should remain as stated in the existing order, and that the percentages of curtailment should remain approximately the same as now in force with only such revisions as the changed conditions and outlook for the industry should require.

The committee agreed that the probable demand for crude petroleum for Oklahoma during the third quarter would be approximately 650,000 barrels per day; that the percentages of potential production hereinafter set forth should be prescribe for the prorated areas outside of the Oklahoma City area and that, the demand being present, the Oklahoma City area should continue to receive as great an outlet as it has been receiving under the present order, with sufficient flexibility to permit of an increase up to 25 per cent of potential in Oklahoma City if the demand develops to that extent.

As a result of the meeting the committee presented the following tables of potentials and allowable production for the three months of July, August and September, 1930, in the following named prorated pools in the state of Oklahoma and submitted the same to the operators in the said pools as a basis for agreement and, if agreed to, to be presented to the Corporation Commission at a hearing to be held for that purpose, with a view to obtaining an order putting same into effect for that period:

PRORATION

Operators of the Earlsboro, Konawa, and Asher-Wanette areas met here according to the proration committee schedule, and adopted committee recommendations without change. Oklahoma City operators are scheduled to meet June 18 at Oklahoma City and a general meeting was to be held in Tulsa June 19.

In order that the operators might have an ample opportunity to consider this proposal in detail and by groups, the committee called meetings of said operators according to the following schedule:

Schedule of Meetings

East Earlsboro operators — Monday, June 16, at 10 A. M.

South Earlsboro operators — Monday, June 16, at 2 P. M.

Konowa operators—Tuesday, June 17, at 10 A. M.

West Asher operators—Tuesday, June 17, at 2 P. M.

Oklahoma City operators—Wednesday, June 18, at 10 A. M.

General meeting of operators in all other areas—Thursday, June 19, at 10 A. M.

All meetings to be held at association headquarters in Tulsa except the meeting of Oklahoma City operators which will be held at the Indian Territory Illuminating Oil Company's office in Oklahoma City.

POTENTIAL AND ALLOWED PRODUCTION BY POOLS IN PRORATED AREAS

Production Allowed 66 2/3 per cent	July		August		September	
	Potential	Allowed	Potential	Allowed	Potential	Allowed
Searight	14,235	9,490	13,808	9,205	13,394	8,929
Allen	18,433	12,289	17,880	11,920	17,880	11,920
Bowlegs	30,056	20,037	29,154	19,436	29,154	19,436
Carr City	11,252	7,501	10,814	7,209	10,490	6,993
Earlsboro (old)	29,585	19,723	28,698	19,132	27,838	18,559
Little River	48,907	32,605	47,440	31,627	46,017	30,678
Mission	15,714	10,476	15,243	10,162	14,786	9,857
Maud	6,262	4,175	6,074	4,049	5,892	3,928
Seminole	30,296	20,197	29,387	19,591	29,387	19,591
East Seminole	4,405	2,937	4,273	2,849	4,145	2,763
St. Louis	40,000	26,667	38,800	25,867	37,636	25,091
Allen (Wilcox)	7,000	4,667	6,650	4,433	6,300	4,200
East Little River	20,000	13,333	19,000	12,667	18,000	12,000
Lovell	6,000	4,000	5,820	3,880	5,645	3,763
Earlsboro Townsite	9,000	6,000	8,100	5,400	7,290	4,860
Sasakwa	10,800	7,200	9,720	6,480	8,750	5,833
Sub-total	301,945	201,297	290,861	193,907	282,604	188,401
Production allowed 33 1/3 per cent						
East Earlsboro	60,000	20,000	50,000	20,000	40,000	20,000
South Earlsboro	35,000	11,666	28,000	9,333	20,000	6,666
Sub-total	95,000	31,666	78,000	29,333	60,000	26,666
Production allowed 25 per cent						
Konawa	60,000	20,000	40,000	19,000	30,000	15,000
Asher	16,000	4,000	12,000	3,000	12,000	3,000
Sub-total	76,000	24,000	52,000	22,000	42,000	18,000
Wells not prorated	.....	10,000	.....	10,000	.....	10,000
Outside areas not prorated	253,000	253,000	260,000	260,000	260,000	260,000
Production allowed 25 per cent maximum						
Oklahoma City	500,000	130,037	600,000	134,760	600,000	146,933
Total state	1,225,945	650,000	1,280,861	650,000	1,244,604	650,000

Allowed production based on 650,000 barrels per day.

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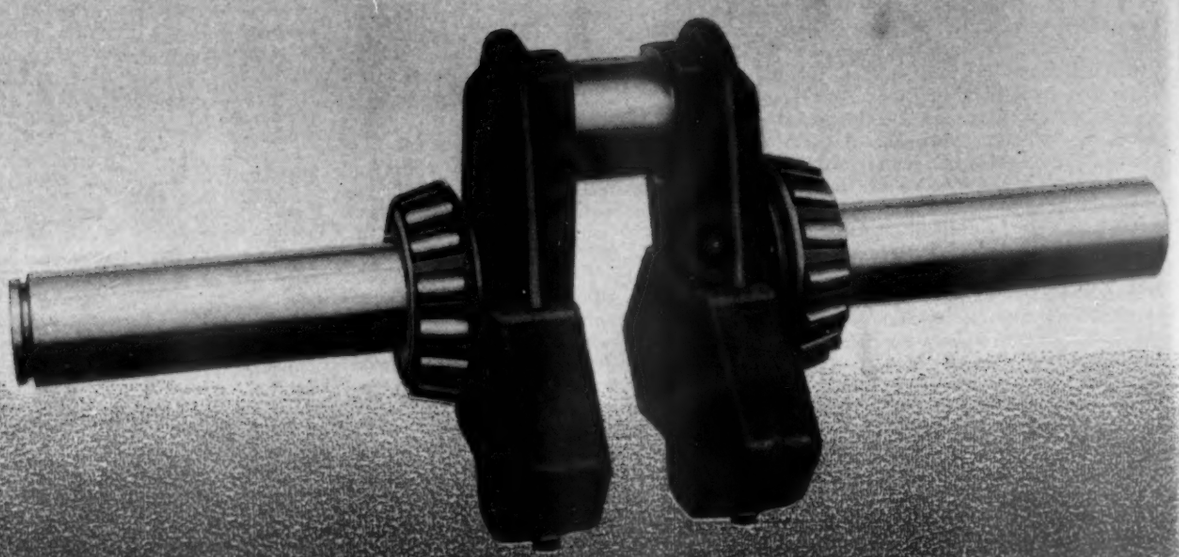

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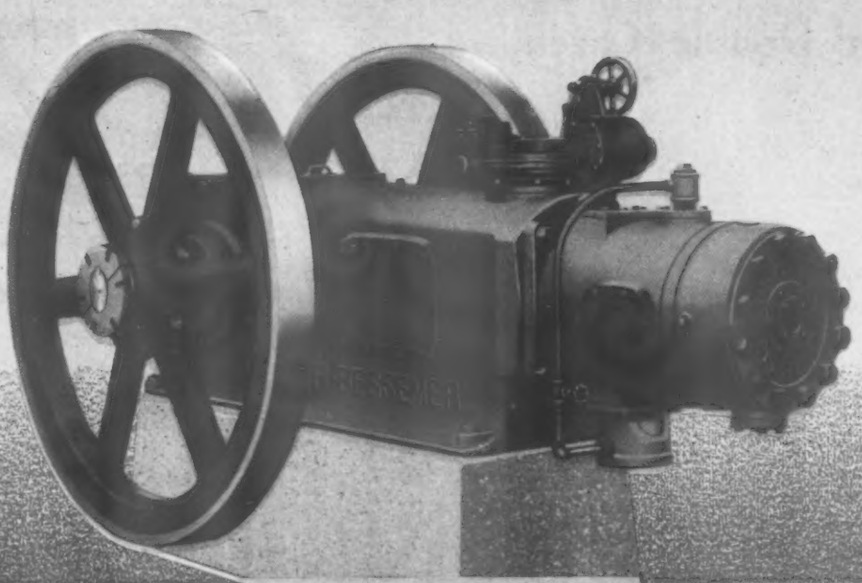

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Wichita, Kansas Seal Beach, California

Markets--Production--Crude Prices

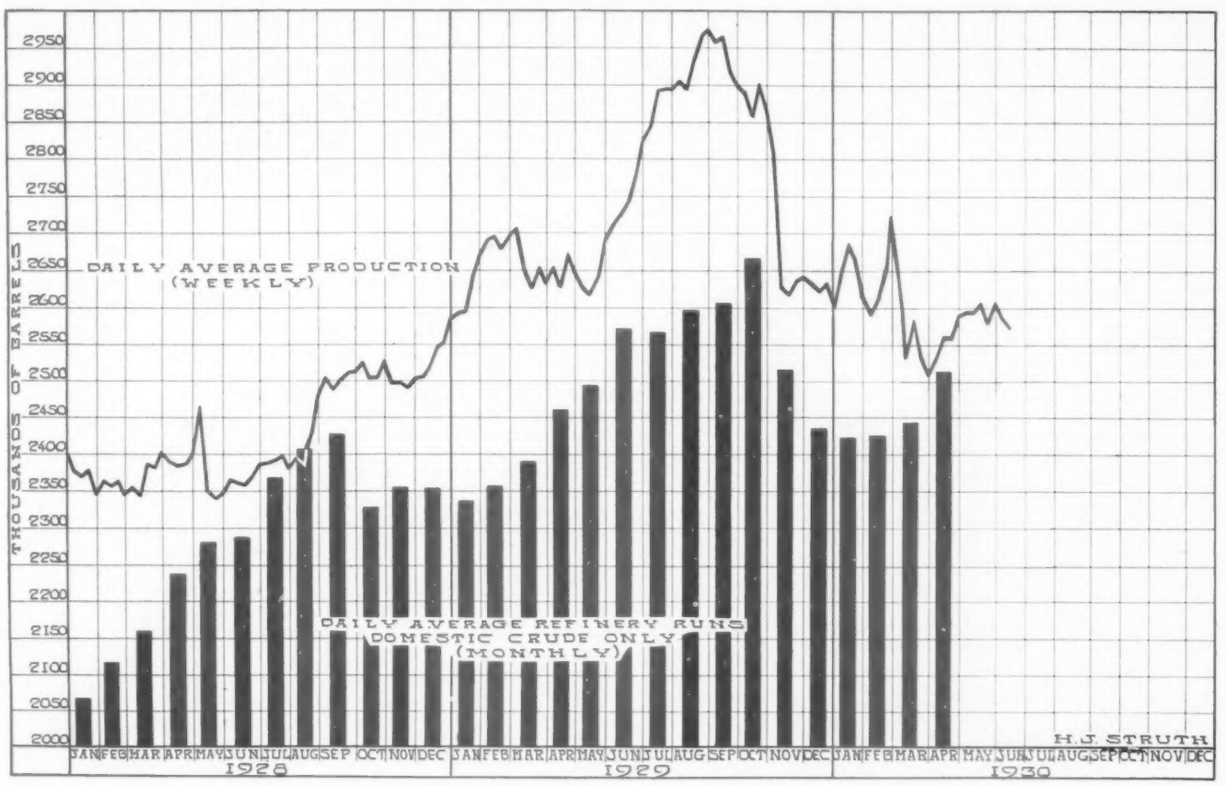
H. J. STRUTH, *Staff Economist, Houston, Texas*

Mixed Trend Prescribed by Crude Price Changes

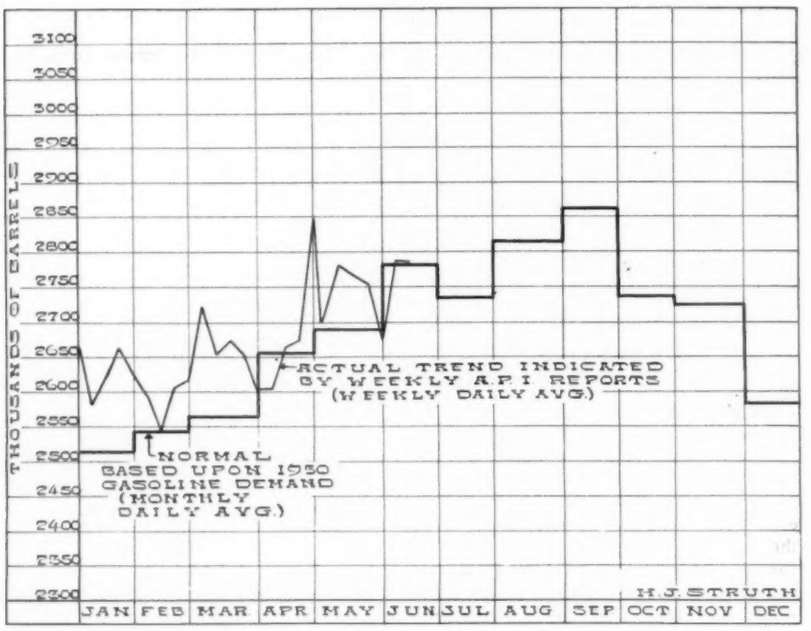
ANNOUNCEMENT of the restoration of crude prices at Santa Fe Springs proved a constructive turn in the crude situation last week, only to be followed by a further reduction in the Pennsylvania market this week. Production in California has been materially lowered, approximating the limits prescribed, while the series of reductions in Pennsylvania have apparently not had the desired effect there. With Pennsylvania oil selling for only $2.20 a barrel, however, it is believed that progress toward curtailment will be accelerated to a marked degree. Organized control of Pennsylvania crude production promises success, because the territory under production is all proved acreage where recovery can be more effectively regulated than in other fields of the country. What effect this latest reduction will have upon the Eastern situation is not difficult to foresee, as the move now under way to reduce output will undoubtedly be pursued with renewed effort.

Another decline in daily average crude production of the United States last week brought the total down to 2,571,500 barrels, a decrease of 16,550 barrels. Most of this decline was credited to Oklahoma, as a result of lower production in the Greater Seminole area. California showed a further decline of 2200 barrels, bringing the state total down to a point that approximates the limit set by proration officials. Kansas, Texas, outside of the Gulf Coast, North Louisiana, Eastern States and the Rocky Mountain area, have all apparently reached a stage of equilibrium, since these areas have shown practically little change in production during the past few weeks. In most instances,

DOMESTIC PRODUCTION AND REFINERY RUNS



RUNS OF CRUDE OIL TO STILLS



however, the current rate of production is still somewhat above economic limits and further effort is required to effect a better degree of equilibrium. Texas, Kansas and Louisiana are chiefly out of line at this time.

The situation in Oklahoma has again brightened, with pipe line movements to the Chicago area materially accelerated. Latest advices indicate that Oklahoma production is in practical balance with demand, a change that has been brought about by seasonal purchases by major refining companies in the East. Accordingly, estimates of necessary production have been revised upward, to the amount of 20,000 barrels daily, reducing the excess of the state to a mere 4331 barrels a day. Actually, crude storage in Oklahoma is being drawn upon, but the elimination of previous excesses makes necessary a somewhat lower production than is actually prescribed by the demand. It would seem that a limit for Oklahoma of 650,000 barrels a day must be maintained in order to reduce stocks to a normal level before next fall. At the same time, Kansas operators must endeavor to apply more effective regulation in order to wipe out the accumulated excess charged to that state. Production in Kansas is now about 22,000 barrels a day above the economic limit.

Practically all of the excess charged to Louisiana is due to increased output in the Gulf Coast. Similarly, overproduction in the Texas Gulf Coast has piled up a substantial excess figure for this state. The total excess at this time for Texas is about 65,000 barrels a day. While the demand appears to aggregate about 825,000 barrels daily in this state, the facts show that a limit of 775,000 barrels a day is necessary to bring the situation there in line with market requirements for the balance of this year. The possibility of realizing a better situation in Texas in the near future is augmented by the work now under way by the committee selected to study Texas crude requirements for Independent Petroleum Association of Texas. Preliminary plans contemplate a detailed study of requirements for the balance of this year, to be used as a basis for equitable proration throughout the state. It is believed that the information made available to the Texas Railroad Commission will furnish sufficient evidence of the need for proration throughout the state.

Another encouraging development that is accepted as constructive to the curtailment movement is the progress being made in the Hobbs, New Mexico, area. Advices indicate that only two more signatures are needed there to obtain full accord on the movement to prorate this area. Undoubtedly, proration will also be in force at Hobbs by July 1. In view of the fact that this area is construed as a market menace, the adoption of proration measures there will materially aid the general market situation. Once the movement to prorate all areas of Texas is under way, it is believed that market conditions will show some improvement. It is only by rigid enforcement, however that any benefit can be realized from curtailment. The vast potential supply in Texas, now rated at more than 7,000,000 barrels daily, will necessarily remain a market threat for some time to come, but full cooperation of all producers in the state cannot fail to bring about sufficient improvement to justify a better crude

CRUDE RUNS TO STILLS, GASOLINE AND GAS AND FUEL OIL STOCKS, WEEK ENDING JUNE 7, 1930

(Figures in barrels of 42 gallons)

District—	Potential Daily Capacity	Potential Capacity Reporting Total	Potential Capacity Reporting Per Cent	Crude Runs to Stills Total	Crude Runs to Stills Daily Average	Crude Runs to Stills Per Cent Operated	Gasoline Stocks	Gas & Fuel Oil Stocks
East Coast	605,700	605,700	100.0	3,791,000	541,600	89.4	9,069,000	8,302,000
Appalachian	128,100	116,600	91.0	571,000	81,600	70.0	1,785,000	820,000
Indiana, Illinois, Kentucky	382,500	381,000	99.6	2,289,000	327,000	85.8	8,347.000	3,964,000
Oklahoma, Kansas, Missouri	462,200	415,200	89.8	2,052,000	293,100	70.6	4,803,000	4,656,000
Texas	788,000	715,700	90.8	4,078,000	582,600	81.4	7,631,000	10,440,000
Louisiana-Arkansas	270,600	262,000	96.8	1,161,000	165,800	63.3	2,470,000	2,083,000
Rocky Mountain	148,900	139,300	93.6	408,000	58,300	41.9	2,772,000	1,142,000
California	897,400	891,400	99.3	4,351,000	621,600	69.7	16,380,000	106,982,000
Total Week June 7	3,683,400	3,526,900	95.8	18,701,000	2,671,600	75.7	53,257,000	138,389,000
Total Week May 31	3,683,400	3,526,900	95.8	17,964,000	2,566,300	72.8	*52,715,000	*137,593,000
The Texas and Louisiana Gulf Coastal Figures Shown Below are Included Above in the Totals of their Respective Districts.								
Texas Gulf Coast	526,500	526,500	100.0	3,098,000	442,600	84.1	6,451,000	7,517,000
Louisiana Gulf Coast	147,500	147,500	100.0	861,000	123,000	83.4	2,053,000	1,160,000

*Revised due to the addition of 109,000 barrels of gasoline stocks and the subtraction of 385,000 barrels of heavy crude and fuel oil stocks in amounts reported for California last week.

market. At best, maintaining control is not going to be an easy task, since even moderately higher prices will always be met with increased output from various sources. It is up to operators in Texas to fall in line with the general curtailment movement, however, and attempt to maintain a degree of control that will sustain any improvement in the crude market.

Room for Improvement

It is readily seen that while proration has proven successful, there is room for further improvement in the production and storage situation. At present the excess crude production of the United States aggregates about 90,000 barrels daily, a major portion of which is charged directly to Texas. While it is apparent that the demand for the third quarter of this year will show a material increase, the industry must not lose sight of the fact that production schedules must be corrected to account for the excesses accumulated during the first and second quarters.

Drilling continues to boost the potentials of various areas, further complicating the curtailment movement. A preliminary check of drilling operations for the first six months of this year indicates that the total number of wells will slightly exceed the total drilled during the first six months of last year. The estimated total for the six months ending June 30 is 10,445 wells against 10,438 last year. Initial production will probably aggregate 4,653,357 barrels, against 3,745,410 barrels during the same period of last year. It looks now as though the total output of crude for the half-year will aggregate about 471,630,450 barrels, against 469,600,690 barrels last year. This indicates a daily average of 2,605,693 barrels for this half-year, against 2,594,479 barrels for the first half of 1929. The acreage still to be drilled in various sections of the country, particularly at Oklahoma City and Hobbs, makes it decidedly necessary to continue proration with increasing effectiveness. Fortunately, there seems to be more or less unanimity among operators in the flush pools to continue proration activities.

A glance at the capacity of new wells coming in at Santa Fe Springs convinces the observer that the field has seen better days. Development operations in this area have dropped to a new low. There are only 37 wells considered active projects in the field and of this number only 16 are actually drilling. The other 21 include two wells swabbing for production, one a wildcat; and 18 are being worked over, plugging back from one zone to another in a vain effort to obtain production. Venice-Del Rey, Los Angeles Basin's newest field is rapidly becoming a factor for conservation consideration. In less than a week production there has increased from 2500 barrels to 7000 barrels daily. Estimates show that a production of 25,000 barrels is likely within 30 days. Long Beach continues to be the wonder oil field of California. Total production is now about 93,000 barrels from 715 wells.

In Northern California interest has

HOW LAST WEEK'S DAILY AVERAGE PRODUCTION COMPARES WITH NECESSARY AND NORMAL QUOTA LIMIT

	Necessary Daily Average 2nd Quarter 1930	Quota Limit Prescribed to Correct Previous Excesses	Actual Daily Average Week Ending June 14, 1930	Excess
Arkansas	69,879	69,879	56,800	—13,079
California	*661,225	*594,000	597,200	3,200
Kansas	116,044	111,552	133,850	22,298
Louisiana	58,011	50,503	65,450	14,947
Oklahoma	*650,150	*647,369	651,700	4,331
Texas	825,508	783,701	848,650	64,949
Balance of U. S.	*224,511	*224,511	217,850	—6,661
Total	2,605,328	2,481,505	2,571,500	89,995

* Revised.

IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

(Barrels of 42 gallons)

	Total Month May	Total Month April	Week Ended June 7	Week Ended May 31
AT ATLANTIC COAST PORTS—				
Baltimore	748,000	942,000	233,000	131,000
Boston	289,000	268,000	66,000	65,000
New York	5,400,000	3,705,000	1,029,000	(a)1,088,000
Philadelphia	1,218,000	1,213,000	230,000	148,000
Others	875,000	583,000	86,000	286,000
Total	8,530,000	6,711,000	1,644,000	1,718,000
Daily Average	275,161	223,700	234,857	245,428
AT GULF COAST PORTS—				
Galveston District	254,000	.....	131,000	.....
New Orleans and Baton Rouge	358,000	222,000	78,000	50,000
Port Arthur and Sabine District	91,000	73,000	.....	.....
Tampa	41,000	125,000	.....	.....
Total	744,000	420,000	209,000	50,000
Daily Average	24,000	14,000	29,857	7,143
AT ALL UNITED STATES PORTS—				
Total	9,274,000	7,131,000	1,853,000	1,768,000
Daily Average	299,161	237,700	264,714	252,571
DISTRIBUTION OF TOTAL IMPORTS IS AS FOLLOWS—				
Crude	5,897,000	4,622,000	1,320,000	1,139,000
Gasoline	1,579,000	1,073,000	249,000	246,000
Kerosene	35,000	40,000	.....	35,000
Gas Oil	148,000	117,000	.....	.....
Fuel Oil	1,615,000	1,279,000	284,000	348,000
Total	9,274,000	7,131,000	1,853,000	1,768,000

CALIFORNIA OIL RECEIPTS AT ATLANTIC AND GULF COAST PORTS

(Barrels of 42 gallons)

	Total Month May	Total Month April	Week Ended June 7	Week Ended May 31
AT ATLANTIC COAST PORTS—				
Baltimore	161,000	233,000	.....	.....
Boston	262,000	.....	.....	.....
New York	873,000	431,000	64,000	.....
Philadelphia	294,000	348,000	283,000	180,000
Others	86,000	223,000	.....	.....
Total	1,676,000	1,235,000	347,000	180,000
Daily Average	54,064	41,167	49,569	25,714
AT GULF COAST PORTS—				
Total	24,000	228,000	.....	.....
Daily Average	774	7,600	.....	.....
AT ATLANTIC AND GULF COAST PORTS—				
Total	1,700,000	1,463,000	347,000	180,000
Daily Average	54,838	48,767	49,569	25,714
Distribution of Total California Oil Receipts is as follows:				
Gasoline	1,448,000	1,212,000	231,000	180,000
Gas Oil	62,000	222,000	116,000	.....
Fuel Oil	190,000	.....	.....	.....
Lubricants	.....	29,000	.....	.....
Total	1,700,000	1,463,000	347,000	180,000

"a"— Revised.

Weekly Comparisons of Permits Granted for New Wells

State—	Week Ending June 14	Previous week	This week 1929	Total this month	This month 1929	Total this year	Total this date last year	1929 year total
Arkansas	5	1	1	6	6	55	55	159
California	....	19	48	19	67	349	654	1,231
Louisiana	19	26	24	45	40	517	373	903
Kansas	25	22	38	47	58	506	476	1,079
Oklahoma	77	79	54	156	135	1,543	1,425	3,578
Texas	203	207	193	410	390	3,825	3,832	8,697
Total	329	354	358	683	696	6,795	6,815	15,647

again centered on the famous Kettleman Hills field. A check of production shows that some 15,000 barrels of oil and 465,000,000 cubic feet of gas are being produced, as well as about 11,000 barrels of casinghead gasoline, from six wells. As the oil there is practically all gasoline it is readily seen that this production really is equivalent to from 75,000 barrels of Elwood or Santa Fe Springs crude, or 150,000 barrels of Inglewood and Huntington Beach oil. Prospects for California are brighter than for some time. Curtailment has been a distinct success in all fields and there is every reason to believe that during the summer months increased gasoline consumption will reduce gasoline stocks to a marked degree. At least that is the hope of the industry, and as long as crude production is maintained at or around present levels, and refinery runs are held in check, it is likely that these hopes will be realized.

The California retail gasoline market continues to exhibit weakness with many large dealers selling at 17½ cents a gallon. Some dealers in lesser known brands and bootleg gasoline are selling for as low as 12½ cents. It is believed that the restoration of crude prices at Santa Fe Springs will impart a strengthening tone to the gasoline market.

Following are the important production changes reported for last week by the American Petroleum Institute:

		Barrels
Gray County	Decrease	4,050
Young County	Increase	5,000
Ector County	Increase	1,600
Crane-Upton	Decrease	2,900
Howard County	Decrease	3,700
Yates	Decrease	3,000
Salt Flat	Increase	4,600
Barbers Hill	Decrease	2,700
Refugio	Increase	1,450
Orchard	(New)	3,000
West Asher	(New)	2,700
Seminole	Decrease	4,950
Bowlegs	Decrease	5,650
Little River	Decrease	3,550
East Little River	Decrease	1,400
Earlsboro	Decrease	1,900
East Earlsboro	Increase	4,600
South Earlsboro	(New)	13,150
St. Louis	Increase	6,050
Allen	Decrease	1,050
Mission	Increase	2,250
Oklahoma City	Decrease	6,250
Midway-Sunset	Decrease	1,500
Ventura	Increase	1,000
Elwood	Decrease	2,100
Caddo Light	Increase	1,450
Smackover Heavy	Decrease	1,350
Salt Creek	Increase	1,400

Crude runs to stills at United States refineries for the week ending June 14 aggregated 18,690,000 barrels, showing practically no change over the preceding week. The accompanying chart shows how runs have again mounted to a higher level, continuing to exceed the normal rate desired. Since stocks of refined oils show the effect of over-production at refineries since the beginning of this year, it is not necessary to point out the folly of maintaining run schedules at these levels. With the industry's present overextended refining facilities, further augmented by the announcements of additional refinery projects, it begins to look as though it is a race to the finish between supply and demand, with supply about two laps ahead. Under the circumstances, it is becoming more than ever necessary for the refining branch of the industry to adopt an effective means of control over crude processing. Stocks of gasoline as of June 14 aggregated 52,842,000 barrels, a decline of 415,000 barrels since June 7. With runs hovering around present levels there is little hope for a favorable change in the gasoline supply situation. The gasoline market reflects this.

Summarized Review of Field Results

State—	Completions This week	Completions Last week	Oil Wells This week	Oil Wells Last Week	Gas Wells This week	Gas Wells Last week	Failures This week	Failures Last week	Initial Prod. This week	Initial Prod. Last week
Arkansas	3	4	1	1	..	2	2	1	70	12
California	..	15	..	13	..	..	..	2	..	4,375
Illinois	7	10	5	7	..	..	2	3	285	158
Indiana	10	..	6	..	..	..	4	..	100	...
Kansas	15	16	6	11	3	1	6	4	2,910	9,160
Kentucky	45	13	30	11	4	..	11	2	1,143	580
Louisiana	20	28	6	12	6	5	8	11	3,680	4,755
Michigan	3	..	3	..	..	..	..	..	981	...
Missouri	..	1	..	..	..	..	..	1	..	...
New Mexico	3	1	3	1	..	..	..	..	25,150	75
New York	12	..	11	..	..	..	1	..	65	...
Ohio	37	59	11	25	15	19	11	15	598	728
Oklahoma	59	78	41	51	6	5	12	22	88,851	102,980
Pennsylvania	48	13	42	6	4	3	2	4	348	26
Texas	134	165	72	88	14	10	48	67	31,755	46,404
West Virginia	15	20	4	9	6	9	5	2	13	121
Total	411	424	241	235	58	54	112	135	155,949	169,374
Increase this week	..	..	6	..	4	..	..	..	..	...
Decrease this week	13	..	..	..	..	..	23	..	13,425	...

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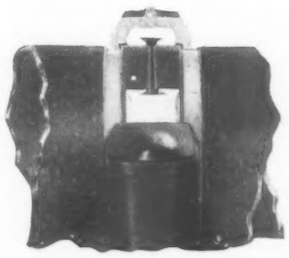

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United States Daily Average Production

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:

1929	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Av.	United States Total
March	666,500	95,500	662,500	147,750	35,800	74,250	108,850	70,400	786,000	2,647,400	82,068,350
April	665,600	106,400	650,100	154,550	35,550	72,900	110,850	69,400	781,350	2,646,700	79,402,100
May	679,650	115,400	651,100	150,350	35,350	71,500	114,150	72,850	749,250	2,639,600	81,827,600
June	685,200	120,750	688,200	147,500	35,700	70,050	116,750	72,000	827,200	2,763,400	82,902,250
July	722,050	124,250	718,950	148,150	35,750	68,650	122,000	74,250	874,850	2,888,900	89,555,250
August	728,100	127,950	750,750	153,100	36,300	66,900	126,600	77,900	873,300	2,940,900	91,167,250
September	714,050	128,450	741,200	156,600	37,050	65,300	137,250	78,600	874,850	2,933,350	88,000,650
October	673,600	113,400	714,550	167,050	39,700	64,550	137,400	77,950	876,600	2,864,800	88,809,500
November	640,300	110,050	702,350	171,350	36,750	63,700	135,400	76,550	706,500	2,642,800	79,285,050
December	650,000	111,600	687,850	161,350	38,700	61,850	140,650	76,150	698,200	2,626,350	81,417,000
1930											
January	671,050	111,700	672,650	178,300	37,650	58,500	142,250	73,850	688,850	2,634,800	81,574,650
February	631,900	111,400	654,600	199,950	39,450	58,400	135,050	74,850	746,550	2,652,150	74,280,200
March	622,650	115,500	644,400	206,000	41,600	58,600	132,700	73,600	649,000	2,544,050	78,865,400
April	657,050	122,200	640,950	206,800	42,100	57,800	138,700	75,950	625,700	2,576,250	77,018,100
May	663,300	131,000	662,350	203,900	39,900	53,800	137,150	82,500	623,700	2,597,700	80,529,600
June 7	667,600	134,600	663,500	207,050	40,750	56,400	135,800	82,950	599,400	2,588,050	18,116,350
June 14	651,700	133,850	663,450	210,400	40,250	56,800	135,300	82,550	597,200	2,571,500	18,000,500
Increase	.....	.....	.....	3,350	.....	400	.....	.....	.....	.....	.....
Decrease	15,900	750	50	.....	500	.....	500	400	2,200	16,550	115,850

TEXAS
(Outside Gulf Coast)

PANHANDLE DISTRICT

	June 14	June 7
Carson County	8,500	8,900
Gray County	73,550	77,600
Hutchinson County	22,650	23,400
Wheeler County	700	800
Others	300	400
Total	105,700	111,100

NORTH TEXAS

Archer County	19,150	19,300
Burkburnett	8,350	8,400
Electra	11,200	11,300
Iowa Park-KMA	5,900	5,900
Montague and Cooke Counties	10,450	10,400
Wilbarger	24,800	24,100
Others	2,300	2,000
Total	82,150	81,400

WEST CENTRAL TEXAS

Brown County	6,600	6,700
Callahan County	3,750	3,900
Coleman County	3,700	3,700
Eastland-Desdemona	5,700	5,800
Jack County	3,500	3,800
Palo Pinto County	600	650
Shackelford County	6,900	6,700
Stephens County	5,700	5,700
Throckmorton County	1,050	1,050
Young County	24,000	19,000
Others	1,200	1,450
Total	62,700	58,450

WEST TEXAS

Ector	16,900	15,300
Crane-Upton Counties	38,000	40,900
Crockett County	2,150	2,250
Howard County	30,200	33,900
Jones County	1,300	1,400
Mitchell-Scurry Counties	2,200	2,150
Yates	112,500	115,500
Pecos County	3,800	3,700
Reagan County	17,700	17,700
Winkler County	70,000	69,400
Others	3,750	3,900
Total	298,500	302,100

EAST CENTRAL TEXAS

Boggy Creek	3,800	3,800
Corsicana-Powell	5,700	5,750
Currie	250	250
Mexia	4,100	4,150
Nigger Creek	200	200
Richland	200	200
Wortham	800	800
Van Zandt	25,250	25,600
Total	40,300	40,750

SOUTHWEST TEXAS

Darst Creek	28,500	28,600
Dale	250	250
Laredo District	7,800	7,850
Luling	9,000	9,000
Lytton Springs	800	800
Somerset	1,050	1,050
Salt Flat	25,300	20,700
Others	1,400	1,450
Total	74,100	69,700
T'tl Tex. (outside Gulf Coast)	663,450	663,500

TEXAS GULF COAST

Esperson	2,000	2,250
Barbers Hill	21,650	24,350
Batson	1,100	1,100
Big Creek	4,200	4,350
Blue Ridge	2,000	1,800
Boling	1,000	1,100
Damon Mound	700	600
Goose Creek	4,700	4,500
Hankamer	.....	2,600
Hull	9,700	9,900
Humble	16,800	15,900
Orange County	2,400	2,400
Pettus	4,750	3,900
Pierce Junction	9,400	9,850
Refugio	35,600	34,150
Raccoon Bend	11,850	12,200
Saratoga	1,050	1,050
Sour Lake	2,300	2,350
South Liberty	4,300	4,500
Spindle Top	16,700	16,400
Sugar Land	11,900	11,700
West Columbia	5,500	5,400
Washington County	1,650	1,700
Fannett	1,000	1,000
Port Neches	1,500	1,500
North Dayton	2,850	2,800
Orchard	3,000	....
Others	5,600	4,650
Total	185,200	184,000
Texas Total	848,650	847,500

OKLAHOMA

Asher	1,750	1,800
West Asher	2,700	....
Carr City	6,600	5,550
Logan County	5,100	6,100
Braman	3,450	3,450
Blackwell	3,400	3,400
Hubbard	1,600	1,600
Thomas	700	700
Tonkawa	7,250	7,250
Garber	4,600	4,600
Burbank	16,350	16,500
Osage (outside Burbank)	26,200	26,200
Cushing	13,850	13,850
Yale Jennings	8,000	8,050
Davenport	1,200	1,200
Bristow Slick	15,800	15,850
North Okmulgee	10,750	10,750
South Okmulgee	7,250	7,250
Cromwell	7,550	7,550
Papoose	2,800	2,800
Wewoka	3,600	3,650
Seminole	23,700	28,650
East Seminole	3,200	4,600
Bowlegs	22,750	28,400
Searight	9,400	9,700
Little River	41,000	44,550
East Little River	15,500	16,900
Earlsboro	31,700	33,600
East Earlsboro	34,000	29,400
South Earlsboro	13,150	....
Duncan District	8,050	8,300
Graham	3,550	3,550
Fox	1,200	1,150
Healdton	11,900	11,900
Hewitt	7,150	7,100
Scholem Alechem	13,250	13,300
Pearson	650	550
St. Louis	30,550	24,500
Allen	22,150	23,200
Maud	3,850	4,050
Mission	9,500	7,250
Oklahoma City	111,250	117,500
Sasakwa	8,900	9,100
Konowa	22,950	22,950
Others	51,900	69,650
Total	651,700	667,600

CALIFORNIA

Santa Fe Springs	110,500	110,800
Long Beach	91,000	91,000
Huntington Beach	28,000	28,000
Dominguez	10,400	10,400
Inglewood	17,200	17,200
Midway-Sunset	63,500	65,000
Ventura Avenue	48,000	47,000
Seal Beach	20,900	21,000
Elwood-Goleta	44,200	46,300
Kettleman Hills	14,500	14,700
Others	149,000	148,000
Total	597,200	599,400

KANSAS

Greenwood County	20,300	20,400
Florence-Covert	800	800
Peabody-Ebling	3,250	3,250
Eldorado-Towanda	14,100	14,100
Augusta-Fox Bush	3,000	3,000
Rainbow Bend	1,100	1,100
Russell	3,550	3,550
Churchill	4,000	4,050
Oxford	2,750	2,750
Sedgwick	18,500	19,150
Voshell	23,000	23,450
Others	39,500	39,000
Total	133,850	134,600

NORTH LOUISIANA

Homer	3,550	3,600
Haynesville	4,650	4,650
Caddo Light	9,350	7,900
Caddo Heavy	2,300	2,300
DeSoto-Red River	3,050	3,050
Holly	1,500	1,550
Carterville	3,700	3,550
Cotton Valley	2,100	2,000
Urania	5,150	5,100
Zwolle	3,250	5,450
Others	1,650	1,600
Total North Louisiana	40,250	40,750

LOUISIANA GULF COAST

Lake Barre	700	700
Port Barre	3,500	3,700
Bayou Boullion	50	50
East Hackberry	1,800	1,800
Hackberry	1,150	1,250
Edgerly	600	650
Evangeline	800	800
Lockport	3,500	2,800
Sorrento	100	250
Sulphur Dome	3,600	3,900
Sweet Lake	100	200
Vinton	6,600	3,950
Others	2,700	3,000
Total Louisiana Gulf Coast	25,200	23,050
Louisiana Total	65,450	63,800

ARKANSAS

El Dorado	4,100	4,050
Champagnolle	4,450	3,800
Smackover Light	5,150	5,150
Smackover Heavy	38,650	40,000
Stephens	950	950
Nevada	1,000	900
Lisbon	1,000	1,000
Others	1,500	550
Total	56,800	56,400

MOUNTAIN STATES
WYOMING

Salt Creek	28,850	27,450
Grass Creek	2,300	2,100
Elk Basin	800	750
Big Muddy	2,000	2,000
Lost Soldier	900	2,400
Rock River	2,200	2,050
Lance Creek	150	150
Oregon Basin	4,750	4,700
La Barge	2,000	2,300
Others	4,400	5,650
Total	48,350	49,550

MONTANA

Cat Creek	1,150	1,200
Sunburst	5,800	5,800
Pondera	2,350	150
Others	50	50
Total	9,350	9,200

COLORADO

Moffats (Craig)	1,050	1,050
Fort Collins	1,350	1,350
Florence	450	500
Others	1,500	1,450
Total	4,350	4,350

NEW MEXICO

Table Mesa	100	100
Artesia	700	750
Hogback	400	400
Rattlesnake	1,300	1,300
Bal. Lea & Eddy Counties	17,100	16,400
Others	900	100
Totals	20,500	19,850
Total Mountain States	82,550	82,950

EASTERN STATES

(Including Ill., Ind., Ohio, W. Va., Pa., Ky., N. Y.)	125,000	125,500
Michigan	10,300	10,300
Total Eastern States	135,300	135,800

PRODUCTION SUMMARY

East of Rockies	1,891,750	1,905,700
Total U. S.	2,571,500	2,588,050

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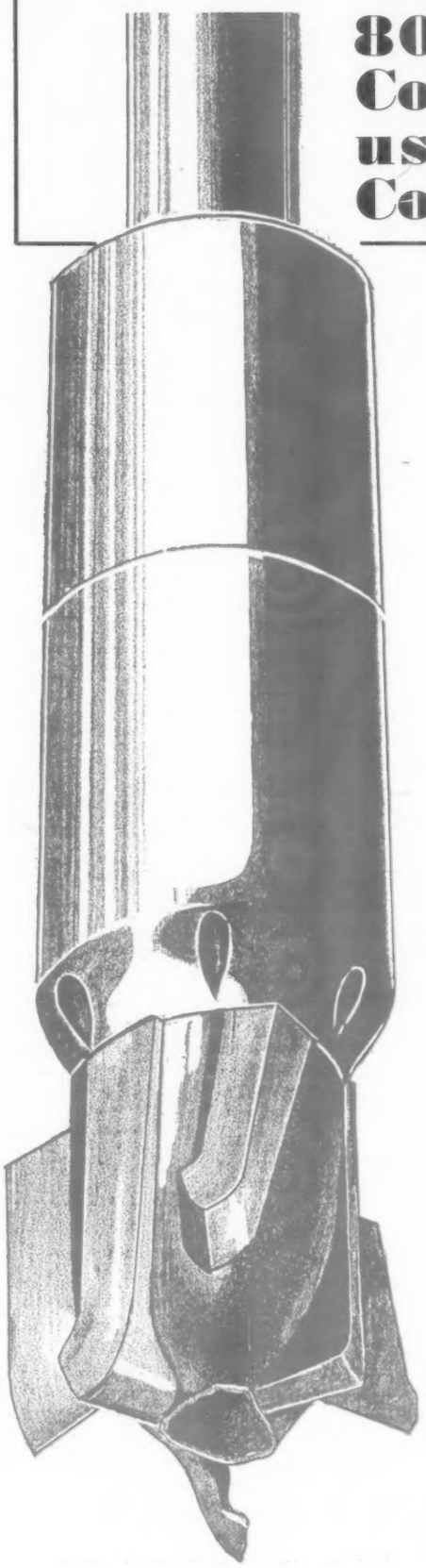


YOU can always easily get clean and accurate samples of formation, as much as twenty feet in length, with the PERFECTION Core Barrel. Send for free catalog and price list.

Ask about other Brewster A.P.I. products: Shouldered Tool Joints; Drill Collars; Fish Tail and Special Gumbo Bits; Special Rock Bits; Core Barrel Cutter Heads for both soft and hard formations. (Cutter Heads for hard formations are faced with a substance of diamond-like hardness).

The Brewster COMPANY~INC.
SUCCESSORS TO OIL CITY IRON WORKS, INC.
Shreveport, Louisiana

COMPLETE STOCK carried at these warehouses: Iverson Specialty Co., Oklahoma City, phone 2-2833; Houston Store, 2000 Harrington St., phone Capitol 3021. *Distributors:* Wilson Supply Co., Houston, Beaumont and Luling, Texas; Continental Supply Co., all stores; Murray-Brooks Hardware Co., Lake Charles, Louisiana; T. T. Word Supply Co., Houston, Texas, and Lake Charles, Louisiana; El Dorado Foundry, Machine & Supply Co., El Dorado, Arkansas.

CRUDE OIL PRICE QUOTATIONS

(Revised to June 17)

CRUDE PRICE CHANGES

Effective June 14, Standard Oil Company of California posted increases of from 75 to 90 cents a barrel on crude produced in the Santa Fe Springs field. This advance restores the schedule in effect prior to the reduction of May 17, and brings the prices offered in this field in line with those offered in other southern California fields.

Effective June 17, Joseph Seep Purchasing Agency announced reduction of ten cents a barrel for all grades of Pennsylvania crude and a reduction of 5 cents for Buckeye crude and 15 cents for Bradford and New York Transit grades.

EASTERN STATES

(Effective June 17, 1930)

*Bradford Grade	2.35
Penn Grade Oil in National Transit Lines (Pennsylvania)	2.20
Penn Grade Oil in Southwest Pennsylvania Lines (Penna.)	2.15
Penn Grade Oil in Eureka Pipe Line Lines (West Virginia)	2.05
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	1.90
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia)	1.65
Corning 35-cent Grade Oil in Buckeye Pipe Line Co.'s Lines	1.55
Corning 25-cent Grade Oil in Buckeye Pipe Line Co.'s lines	1.75
Somerset Oil in Cumberland Pipe Line lines (Kentucky)	1.37
Ragland Grade Oil in Cumberland Pipe Line lines (Kentucky) (Effective Jan. 29, 1929)	.60
Wayne Dist. Oil in Cumberland Pipe Lines	1.24

*Posted by Tidewater Pipe Co., Ltd.

CENTRAL STATES

(Effective April 11, 1930)
Posted by Ohio Oil Co.

Illinois	$1.65
Indiana	1.47
Lima	1.70
Plymouth	1.23
Princeton	1.65
Wooster	1.80

WESTERN KENTUCKY

All grades	1.55

OKLAHOMA-KANSAS

(Effective April 10, 1930)

Below 25 gravity	$ .70
25 to 25.9 gravity	.70
26 to 26.9 gravity	.76
27 to 27.9 gravity	.82
28 to 28.9 gravity	.88
29 to 29.9 gravity	.95
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.10
32 to 32.9 gravity	1.15
33 to 33.9 gravity	1.185
34 to 34.9 gravity	1.22
35 to 35.9 gravity	1.255
36 to 36.9 gravity	1.29
37 to 37.9 gravity	1.325
38 to 38.9 gravity	1.36
39 to 39.9 gravity	1.395
40 to 40.9 gravity	1.43
41 to 41.9 gravity	1.465
42 to 42.9 gravity	1.50
43 to 43.9 gravity	1.535
44 and above	1.57

PANHANDLE

(Effective April 10, 1930)

GRAY COUNTY

Below 29 gravity	.755
29 to 29.9 gravity	.805
30 to 30.9 gravity	.855
31 to 31.9 gravity	.905
32 to 32.9 gravity	.955
33 to 33.9 gravity	1.005
34 to 34.9 gravity	1.055
35 to 35.9 gravity	1.09
36 to 36.9 gravity	1.125
37 to 37.9 gravity	1.16
38 to 38.9 gravity	1.195
39 to 39.9 gravity	1.23
40 to 40.9 gravity	1.265
41 to 41.9 gravity	1.30
42 to 42.9 gravity	1.335
43 to 43.9 gravity	1.37
44 and above	1.405

CARSON-HUTCHINSON COUNTIES

Below 32 gravity	$ .775
32 to 32.9 gravity	.825
33 to 33.9 gravity	.875
34 to 34.9 gravity	.925
35 to 35.9 gravity	.96
36 to 36.9 gravity	.995
37 to 37.9 gravity	1.03
38 to 38.9 gravity	1.065
39 to 39.9 gravity	1.10
40 to 40.9 gravity	1.135
41 to 41.9 gravity	1.17
42 to 42.9 gravity	1.205
43 to 43.9 gravity	1.24
44 and above	1.275

WHEELER COUNTY

Below 30 gravity	$ .755
30 to 30.9 gravity	.805
31 to 31.9 gravity	.855
32 to 32.9 gravity	.905
33 to 33.9 gravity	.955
34 to 34 9 gravity	1.005
35 to 35.9 gravity	.104
36 to 36.9 gravity	1.075
37 to 37.9 gravity	.111
38 to 38.9 gravity	1.145
39 to 39.9 gravity	.118
40 to 40.9 gravity	1.215
41 to 41.9 gravity	.125
42 to 42.9 gravity	1.285
43 to 43.9 gravity	.132
44 and above	1.355

WEST TEXAS

(Effective April 10, 1930)

Crane-Upton, Crockett, Ector, Howard, Pecos and Winkler Counties and Lea County, N. Mex.

Below 25 gravity	$ .65
25 to 25.9 gravity	.68
26 to 26.9 gravity	.71
27 to 27.9 gravity	.74
28 to 28.9 gravity	.77
29 to 29.9 gravity	.80
30 to 30.9 gravity	.83
31 to 31.9 gravity	.86
32 to 32.9 gravity	.89
33 to 33.9 gravity	.92
34 to 34.9 gravity	.95
35 to 35.9 gravity	.98
36 and above	1.01

Magnolia Petroleum Company posts in Crane, Upton and Winkler Counties. Southern Crude Oil Purchasing Company posts only in Crane, Upton and Winkler Counties.

CALIFORNIA CRUDE OIL PRICES AT THE WELL

(EFFECTIVE JUNE 14, 1930)

Following are the current prices offered by Standard Oil Company for crude oil at the wells; (Price per barrel of 42 gallons in fields indicated)

Gravity	Ventura*	Signal Hill	Alamitos Heights Seal Beach	Huntington Beach	Inglewood	Olinda-Brea Canon	Athens-Rosecrans Dominguez	Elwood Terrace	Torrance	Richfield	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway-Sunset Elk Hills	Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	$ .70	$ .70	$ .70	$ .70	$ .70	$ .70	$ ..	$ ..	$ .70	$ .70	$ .70	$ .70	$ .70	..	$ .55	$ .55	$ .55	$ .55	$ .55	$ .55
15-15.9	.70	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.55	.55	.55	.55	.55	.55
16-16.9	.70	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.55	.55	.55	.55	.55	.55
17-17.9	.70	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.55	.55	.55	.55	.55	.55
18-18.9	.75	.76	.76	.76	.76	.76	..	..	.76	.76	.76	.71	.76	..	.55	.62	.62	.62	.62	.62
19-19.9	.80	.82	.82	.82	.82	.82	..	..	.82	.82	.82	.77	.82	..	.55	.70	.70	.70	.70	.70
20-20.9	.85	.88	.88	.88	.88	.88	..	..	.88	.88	.87	.83	.87	..	..	.78	.78	.78	.78	.78
21-21.9	.90	.94	.94	.94	.94	.94	..	..	.94	.94	.93	.90	.93	.92	..	.86	.86	.86	.86	.86
22-22.9	.97	1.00	1.00	1.00	1.00	1.00	..	..	1.00	1.00	.98	.97	.98	.95	..	.94	.94	.94	.94	.94
23-23.9	1.05	1.07	1.07	1.07	1.07	1.07	..	..	1.07	1.07	..	1.05	1.04	1.01	..	1.02	1.02	1.02	1.02	1.02
24-24.9	1.08	1.14	1.14	1.14	1.14	1.14	1.14	..	1.14	1.14	..	1.11	1.10	1.07	..	1.09	1.09	1.09	1.07	1.07
25-25.9	1.13	1.21	1.21	1.21	1.21	1.21	1.19	..	1.21	1.21	..	1.17	1.16	1.13	..	1.16	1.16	1.16	1.12	1.12
26-26.9	1.18	1.28	1.28	1.28	1.28	1.28	1.24	..	1.28	1.28	..	1.23	1.23	1.19	..	1.23	1.23	1.23	1.17	1.17
27-27.9	1.23	1.35	1.35	1.35	1.35	1.35	1.29	..	1.35	1.35	..	1.29	1.30	1.25	..	1.30	1.30	1.30	1.23	1.22
28-28.9	1.28	1.42	1.42	1.42	1.42	1.42	1.34	..	1.42	1.42	..	1.35	1.37	1.31	..	1.35	1.35	1.35	1.27	..
29-29.9	1.33	1.46	1.46	1.46	..	1.46	1.39	..	..	1.46	..	1.38	1.41	1.37	..	1.41	1.41	1.41	1.31	..
30-30.9	1.39	1.50	1.50	1.50	..	1.50	1.45	..	..	1.50	..	1.41	1.45	1.43	..	1.47	1.47	1.47	1.35	..
31-31.9	1.45	1.55	1.55	1.55	..	1.55	1.51	..	..	..	..	..	..	1.49	..	1.53	1.53	1.53	1.39	..
32-32.9	1.51	1.60	1.60	1.60	..	..	1.57	..	..	..	..	..	..	1.55	..	1.59	1.59	1.59	1.43	..
33-33.9	1.58	..	..	..	..	..	1.64	..	..	..	..	..	..	1.60	..	1.65	1.65	1.65	1.47	..
34-34.9	..	..	..	..	..	..	1.71	1.32	..	..	..	..	..	1.65	..	..	..	1.71	1.51	..
35-35.9	..	..	..	..	..	..	1.78	1.39	..	..	..	..	..	1.70	..	..	..	1.77	1.55	..
36-36.9	..	..	..	..	..	..	1.84	1.46	..	..	..	..	..	1.75	..	..	..	..	..	..
37-37.9	..	..	..	..	..	..	1.90	1.53	..	..	..	..	..	1.80	..	..	..	..	..	..
38-38.9	..	..	..	..	..	..	1.96	1.60	..	..	..	..	..	1.85	..	..	..	..	..	..
39-39.9	..	..	..	..	..	..	2.02	1.66	..	..	..	..	..	1.90	..	..	..	..	..	..
40-40.9	..	..	..	..	..	..	2.08	1.72	..											
41-41.9	..	..	..	..	..	..	2.14	1.78	..											
42-42.9	..	..	..	..	..	..	2.20	1.84	..											

KETTLEMAN HILLS—55 degrees Gravity and above $1.65 per barrel. *Union Oil Company.

General Petroleum Posts following prices 11-13.9 Gr. 50c, 14-22.9 55c at Kern Front, Fruitvale, Mt. Poso Creek and Rd. Mountain districts.

(See page 52)

The kind of *Service* that brings them back! . . . Sinclair Three-Gas Service

Sell Sinclair Three-Gas Service. Offer motorists three different fuels to select from. If they want the *Ace* of high test gasolines—one that gives quick starting, flashy pickup and brilliant performance—recommend Sinclair *Aircraft* Gasoline! Sinclair Aircraft is the Ace of high test gasolines because it is specially manufactured at Sinclair Refineries, meeting the requirements of the Federal Specifications Board for Aviation Gasoline—domestic grade—and gives sustained power. Due to its careful fractionation it is free from dissolved gases which cause gas locks, uneven distribution, galloping and engine balk.

Or—if they want high compression performance that stops knocks—there's Sinclair *H-C* Gasoline. It's all gasoline, nothing added.

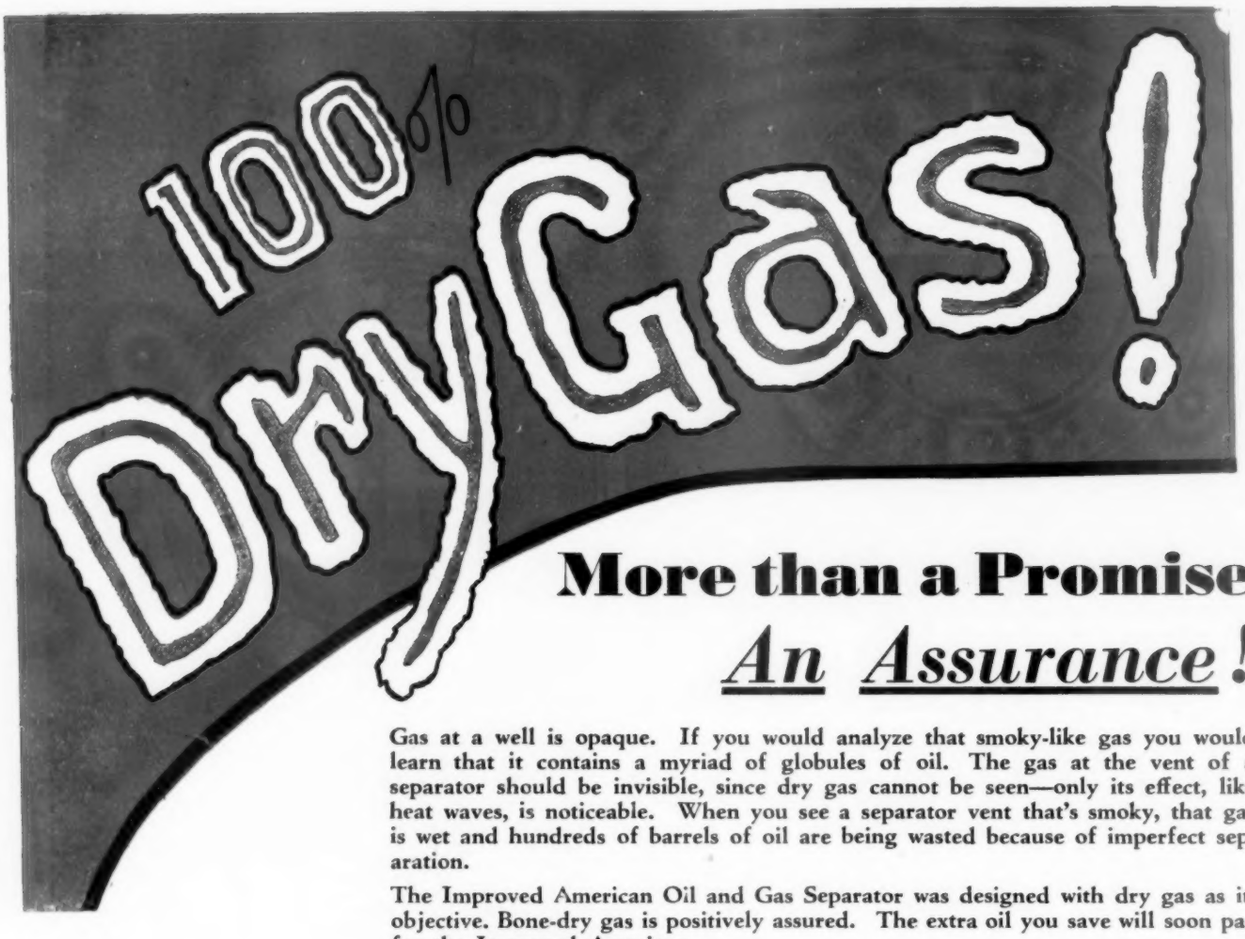
And—if they prefer to pay three cents less per gallon—there's Sinclair *Regular* Gasoline—full of eager power—*great* for *economy* and *mileage*. The quality gasoline at a popular price!

A motorist doesn't have to "take" just one gasoline when he drives in for Sinclair "Three-Gas" Service . . . He can choose it to fit his own engine and his own preference.

When a motorist gets Sinclair Three-Gas Service he gets the kind of service that brings him back and makes him a regular customer.

SINCLAIR REFINING COMPANY, INC.
45 Nassau Street, New York

Atlanta ***Chicago*** ***Houston*** ***Kansas City***



More than a Promise
An Assurance!

Gas at a well is opaque. If you would analyze that smoky-like gas you would learn that it contains a myriad of globules of oil. The gas at the vent of a separator should be invisible, since dry gas cannot be seen—only its effect, like heat waves, is noticeable. When you see a separator vent that's smoky, that gas is wet and hundreds of barrels of oil are being wasted because of imperfect separation.

The Improved American Oil and Gas Separator was designed with dry gas as its objective. Bone-dry gas is positively assured. The extra oil you save will soon pay for the Improved American.

Not Built on Conjecture
Engineered!

AMERICAN
OIL FIELD EQUIPMENT
Always Dependable.

B.S.&B. Products

Designed for a Purpose!

Much equipment in the oil fields is built on conjecture. Quite the contrary, the Improved American Oil and Gas Separator has been thoroughly ENGINEERED. Experimental Separators were first constructed with glass windows so as to observe each step in the process of oil and gas separation. Every improvement has been designed for a definite purpose. Each improvement has been carefully studied and tested before being incorporated in the Improved American.

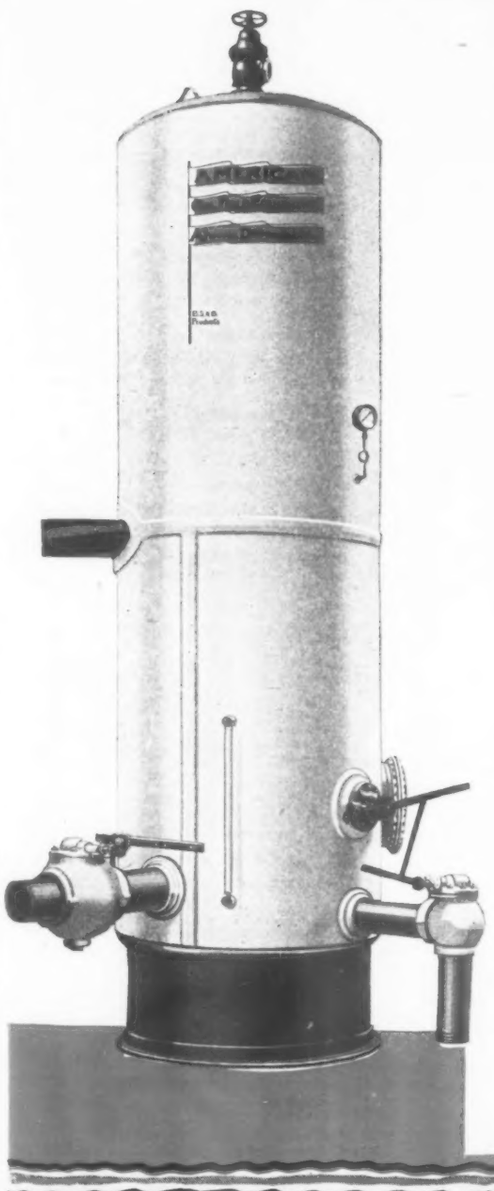
Designed in accordance with the better engineering practice, built to rigid specifications, and tested to twice the maximum working pressure, the Improved American performs perfectly under the most severe field conditions.

Proved Results

The Improved American has met every test imposed upon it under the severe conditions in the Oklahoma City field—on oil wells and gas wells alike. This separator is producing results that exceeded expectations. The demand for the Improved American in this field of large oil volume and high gas pressure is ample proof of its high efficiency.

The Improved American Oil & Gas Separator!

Equipped With The B. S. & B. Spray Condenser



Exclusive! Distinctive!! Unusual!!!

The B. S. & B. Spray Condenser —

The B. S. & B. Spray Condenser is an essential feature of the Improved American. It removes every last drop of oil from the gas. This has been demonstrated in actual field operation.

The novel design of the B. S. & B. Spray Condenser is the result of intensive study and experimentation. It involves a radically new principle in the separation of oil and gas.

The Inside Float —

The Improved American is equipped with an inside float. An inside float can be much larger than an outside float, which results in greater buoyancy and which in turn produces more power to operate the oil valve. It is ten times as effective as the obsolete outside float. "A man to do a man's work".

The Tangential Inlet —

The Improved American is equipped with a Tangential Inlet. Unlike the ordinary inlet with its internal deflector the tangential inlet does not retard the force of the incoming oil and gas flow. It is so designed that centrifugal force is utilized to the utmost degree.

This inlet is built entirely inside the separator. Notice the absence of projecting fittings. There is no threaded connection to become damaged through rough handling.

For 100% dry gas "See American First." Write Department AA-1.

American Tank Co.

A SUBSIDIARY OF
BLACK, SIVALLS, & BRYSON, Inc.
BARTLESVILLE, OKLAHOMA

OKLAHOMA CITY, OKLAHOMA

CRUDE OIL PRICE QUOTATIONS (*Continued from Page 48*)

HOWARD AND GLASSCOCK COUNTY CRUDE

(Effective April 10, 1930)

Below 25 gravity	$ .65
25 to 25.9 gravity	.68
26 to 26.9 gravity	.71
27 to 27.9 gravity	.74
28 to 28.9 gravity	.76
29 to 29.9 gravity	.78
30 to 30.9 gravity	.80
31 to 31.9 gravity	.82
32 to 32.9 gravity	.84
33 to 33.9 gravity	.86
34 to 34.9 gravity	.88
35 to 35.9 gravity	.90
36 and above	.92

MARKHAM

The Texas Company

(Effective April 11, 1930)

All grades	$ .85

CORSICANA HEAVY

All grades	$ .80

SALT FLAT AND DARST CREEK

All grades	$1.15

SOUTH TEXAS

Mirando	$ .85
Luling	.85

NORTH AND CENTRAL TEXAS

(Effective April 10, 1930)

Ranger, North Texas, Mexia, Powell, Richland, Wortham, Currie, Moran, Nocona and Lytton Springs Crude

Below 25 gravity	$ .72
25 to 25.9 gravity	.77
26 to 26.9 gravity	.82
27 to 27.9 gravity	.87
28 to 28.9 gravity	.92
29 to 29.9 gravity	.97
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.07
32 to 32.9 gravity	1.12
33 to 33.9 gravity	1.17
34 to 34.9 gravity	1.22
35 to 35.9 gravity	1.225
36 to 36.9 gravity	1.29
37 to 37.9 gravity	1.325
38 to 38.9 gravity	1.36
39 to 39.9 gravity	1.395
40 to 40.9 gravity	1.43
41 to 41.9 gravity	1.465
42 to 42.9 gravity	1.50
43 to 43.9 gravity	1.535
44 and above	1.57

GULF COAST

(Effective April 10, 1930)

Grade "A" all companies	$1.15

Grade "B"

Below 25 gravity	$1.00
25 to 25.9 gravity	1.03
26 to 26.9 gravity	1.06
27 to 27.9 gravity	1.09
28 to 28.9 gravity	1.12
29 to 29.9 gravity	1.15
30 to 30.9 gravity	1.18
31 to 31.9 gravity	1.21
32 to 32.9 gravity	1.24
33 to 33.9 gravity	1.27
34 to 34.9 gravity	1.30
35 to 35.9 gravity	1.33
36 to 36.9 gravity	1.36
37 to 37.9 gravity	1.39

CLASSIFICATIONS OF GULF COAST CRUDE

The Texas Company: GRADE A—Beaume gravity not over 26.0 degrees at 60 degrees Fahrenheit; sulphur not over 0.5 per cent; in distilling 500 cc. of the crude that part of the distillate cut between 65 per cent off and 85 per cent off shall have a pour test of zero or lower. GRADE B—All Gulf Coast heavy crudes which do not meet tests for Grade "A" or for Gulf Coast light.

Humble Oil & Refining Company: GRADE A—All crude conforming to the following tests: viscosity not less than 100 seconds Saybolt at 100 degrees Fahrenheit; sulphur not over .4 per cent; Beaume gravity not over 25 at 60 degrees Fahrenheit. Cold tests of distillates having a viscosity of 1000 seconds at 100 degrees Fahrenheit shall not be over 5 degrees Fahrenheit. GRADE B—Embraces all Coastal crude which does not meet the tests for "A" grade crude.

Gulf Pipe Line Company: GRADE A—Beaume gravity not over 24 at 60 degrees Fahrenheit; viscosity not less than 100 seconds universal Saybolt at 100 degrees Fahrenheit; and sulphur not over 0.4 per cent. The yield of 250 viscosity reduced distillate at 100 degrees Fahrenheit not less than 30 per cent, and this 30 per cent not heavier than 20 Beaume, and its pour test not above zero Fahrenheit. The reduced distillate to be secured by reducing the crude with fire and steam until the bottoms have a flash of not less than 540 degrees Fahrenheit, and not more than 560 degrees Fahrenheit open cup, and the entire distillate obtained in this way reduced to a distillate of 250 viscosity. The 10 per cent cut in the original distillate having an average viscosity of 500 seconds at 100 degrees Fahrenheit to have a pour test not higher than 5 degrees Fahrenheit. GRADE B—Embraces crude which does not meet test for "A" grade.

Sun Pipe Line Company: GRADE A—Viscosity not less than 100 seconds at 100 degrees Fahrenheit Saybolt. Sulphur not over .4 per cent. Beaume gravity not over 25 at 60 degrees Fahrenheit. Cold Test: of distillates having viscosity of 1000 seconds at 100 degrees Fahrenheit shall not be over 5 degrees Fahrenheit A. S. T. M. Method. GRADE B—All Coastal crudes which do not meet specifications for Grade A crude.

38 to 38.9 gravity	1.42
39 to 39.9 gravity	1.44
40 to 40.9 gravity	1.46
41 to 41.9 gravity	1.48
42 to 42.9 gravity	1.50
43 to 43.9 gravity	1.52
44 and above	1.54

REFUGIO

(Effective April 10. 1930)

Below 25 gravity (Heavy)	.85

REFUGIO (Light)

Same as Gulf Coast 25 gravity and above.

PETTUS

(Effective April 10. 1930)

All grades	$1.40

BRENHAM

(Effective March 1, 1930)

All grades	.95

STATE CRUDE PRODUCTION TAXES

Oklahoma—Three per cent of gross value, less royalty interest.

Texas—Two per cent of gross value.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 per cent of gross market value.

Montana—Two per cent of gross value at well.

Wyoming and New Mexico—production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

WYOMING-MONTANA

(Effective April 11, 1930)

Wyoming

Byron	$1.33
Ferris	1.60
Elk Basin	1.55
Grass Creek	1.55
Rock Creek	1.35
Lost Soldier	1.05
Lance Creek	1.63
Mule Creek	1.20
Notches	.65
Big Muddy	1.38
Osage	1.65
Hamilton Dome	.85
Pilot Butte	1.75
Torchlight-Greybull	1.65
Lander	.80
Rex Lake	1.10
South Casper Creek-Poison Spider	1.00

SALT CREEK

Midwest Refining Company

29 to 29.9 gravity	$ .90
30 to 30.9 gravity	.96
31 to 31.9 gravity	1.02
32 to 32.9 gravity	1.08
33 to 33.9 gravity	1.11
34 to 34.9 gravity	1.14
35 to 35.9 gravity	1.17
36 to 36.9 gravity	1.20
37 and above	1.23

MONTANA

(Effective Feb. 15, 1930)

Sunburst	$1.65
Cat Creek	1.48
Lake Basin	2.20

NEW MEXICO

(Effective April 11, 1930)

Artesia	1.05
Hog Back	1.43
Maljamar	.95
Jal and Lea	*

(*) West Texas price scale used by The Texas Company and Humble Oil & Refining Co.

CANADA

(Effective April 11, 1930)

Oil Springs	2.17
Petrolia	2.10

LOUISIANA-ARKANSAS

(Effective April 11, 1930)

Homer, Haynesville, Caddo, El Dorado, De-Soto and Crichton and Cotton Valley*

Below 28 gravity	$ .87
28 to 28.9 gravity	.92
29 to 29.9 gravity	.97
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.07
32 to 32.9 gravity	1.12
33 to 33.9 gravity	1.17
34 to 34.9 gravity	1.22
35 to 35.9 gravity	1.255
36 to 36.9 gravity	1.29
37 to 37.9 gravity	1.325
38 to 38.9 gravity	1.36
39 to 39.9 gravity	1.395
40 to 40.9 gravity	1.43
41 to 41.9 gravity	1.465
42 to 42.9 gravity	1.50
43 to 43.9 gravity	1.535
44 gravity and above	1.57

*Shreveport-Eldorado's postings stop at above 40 gravity.

The posting on Cotton Valley is same as Caddo. From 36 to 52 and above the regular gravity schedule is followed.

The Texas Company pays North Texas gravity scale in North Louisiana.

STEPHENS

Below 28 gravity	$ .76
28 to 28.9 gravity	.81
29 to 29.9 gravity	.86
30 to 30.9 gravity	.91
31 to 31.9 gravity	.96
32 gravity and above	1.01

SMACKOVER

Below 24 gravity	$ .90
24 and above	1.05

PERSONAL MENTION-MEN YOU KNOW

AT a conference of the editorial department of THE OIL WEEKLY, held in connection with the annual conference of The Gulf Publishing Company, publishers of THE OIL WEEKLY, THE REFINER AND NATURAL GASOLINE MANUFACTURER, and THE PETROLEUM MARKETER, held June 12, 13 and 14 at the Nueces hotel, Corpus Christi, Texas, an editorial program was outlined for the coming year, and in joint session with the business department of the company, a review of the past year's activities in the several important producing areas, was provided by members of THE OIL WEEKLY staff.

Brad Mills, staff representative for the California area, stationed in Los Angeles, presented the picture of the industry in California, traced the course of conservation, told of the development of flush areas, and sketched the economic background which makes the California situation so interesting though troublesome. Accurate figures on past developments were given and estimates of future operations, were offered.

Approximately the same treatment of the North and West Texas area was given by H. H. King, staff representative at Fort Worth. Of particular interest to members of the company's business department, was his description of present operations at Hobbs, New Mexico, and his interpretation of the economic significance of this development, which offers a new threat to present over-production. Further interest was shown in the description of pipe line development which King outlined completely.

Likewise the Gulf Coast, including the Texas and Louisiana Gulf Coast areas, was covered in a presentation by Jack Logan, staff representative for this important area, with headquarters in Houston. Logan graphically presented the developments in the salt dome area, and sketched briefly the possible future developments.

Floyd Swindell, staff representative at Tulsa, presented the interesting picture of field developments in the Mid-Continent, with particular stress on the developments at Oklahoma City. Swindell discussed the Oklahoma City situation from the geologic viewpoint, and outlined possible developments there during the next year. A part of the discussion was centered on wildcat developments in Western Kansas, and the future of this important area was outlined.

And finally the Arkansas-North Louisiana area was covered in a report by W. W. Moore, Shreveport. Of particular interest was Mr. Moore's estimate of the importance of developments in Mississippi, and possible deep drilling activity in Louisiana.

R. A. Weaver and W. S. Proctor, Regan Sales Company, have recently switched territories. Mr. Weaver is now headquartering in Midland and covering the West Texas district whereas Mr. Proctor, who was formerly located in Pecos, is now making his headquarters at Oklahoma City.

Scott Turner has received notification from the Secretary of State as to his designation as a delegate on the part of the United States to the second plenary meeting of the World Power conference to be held at Berlin the latter part of June, and he has also received from the same source his appointment as one of the two American delegates on the part of the United States to the International Congress of Mining, Metallurgy and Applied Geology to be held at Liege, the end of June. Mr. Turner is also an official delegate of the American Committee of the World Power Conference, and carries credentials of the American Institute of Mining and Metallurgical Engineers to the same conference.

James L. Tatum, Continental Oil Company, has moved from Laredo, Texas, to Monterrey, Mexico. For the past six years Mr. Tatum has been chief geologist for the Mexican subsidiaries of Continental Oil Company, formerly Marland Oil Company, and during that time was largely responsible for the acquisition of this company's extensive holdings in Northern Mexico.

C. C. Clark, district geologist for Shell Petroleum Corporation at Shreveport for the past six years, has accepted a position with Louisiana Gas & Fuel Company, Shreveport.

David B. Reger, of Morgantown, West Virginia, has resigned his position as associate geologist of the West Virginia Geological Survey, effective August 31, 1930. His future plans have not been announced.

Mr. Reger began his scientific work as field assistant with the United States Geological Survey in 1903, remaining with that organization until 1906, when he entered the civil service of the United States Navy and was assigned to duty as hydrographic surveyor at the Guantanamo Naval Station, Cuba. Returning to the United States in 1907, he entered the service of the West Virginia Survey in 1909 as field assistant. In 1913 he became assistant geologist, and from December, 1927, until October, 1929, was in administrative charge of the survey, following the death of Dr. I. C. White. Since 1929 he has been associate geologist.

Peter F. Steinmetz has recently been appointed advertising manager of Emsco Derrick & Equipment Company. Formerly he was assistant advertising manager in charge of advertising and the price department for the D & B rivision of that company. Mr. Steinmetz has been with the company since 1927. Starting in the shops and working through the various departments, he has acquired a thorough knowledge of Emsco and D & B oil field equipment.

J. M. O'Melveny, salesman for the oil tool division of Chicago Pneumatic Tool Company, has gone to Calgary, Canada, for a period of five or six months to represent his company in the sale of new rock bits in that territory.

John F. Weinzierl, consulting geologist and geophysicist, Houston, was married Monday, June 16, at Christ Church, Houston, to Miss Mary C. Marrs, daughter of Mr. and Mrs. S. M. N. Marrs of Austin.

G. H. Forster Heads Sub-Committee

Dallas.—Appointment of George H. Forster, comptroller of the Union Oil Company of California, Los Angeles, as national chairman of Group 4, National Sub-Committee of Oil Accountants, of the Central committee on standardized procedure for measuring, sampling and testing of crude oil, has been announced by Carl A. Young, secretary, American Petroleum Institute's division of production. Mr. Forster for some time has been active in the work of this committee as well as that of Group 1, National Sub-Committee on uniform tank measurements and gage tables.

It is expected that under the leadership of Chairman Forster the subcommittee will push to completion its work of preparing its particular section of the contemplated code of good practices for measuring, sampling and testing of crude oil.

Work on the other sections of the code is well advanced, and it is expected that the code will be recommended to the Institute's board of directors for adoption within a few months.

Boyd McKinley, Midway field representative of the MacClatchie Manufacturing Company, with headquarters in Bakersfield, is again in California, after having spent several weeks in the Canadian oil fields.

Committee Seeks Data on Texas Crude Requirements

FORT WORTH, Texas—Work of the Joint Committee of Producers and Pipe Lines of Texas has been launched by the mailing out of questionaires to producers requesting information as to quantity of crude nominated for the remainder of this year, as well as data on crude storage and storage capacities. Announcement was made June 9 of the appointment of David Donoghue, Fort Worth, as technical advisor to the joint committee of the Independent Producers Association and Mid-Continent Oil and Gas Association, and the pipe line companies of Texas.

Much gratification was expressed by members of the Committee at the fact that Mr. Donoghue's services were available for this work. He was formerly chief geologist for Texas Pacific Coal and Oil Company and has also been prominent in the work of the American Association of Petroleum Geologists and has had much experience in similar lines to that which he will now undertake, particularly having cooperated with the Federal Oil Conservation Board in much of its work. Mr. Donoghue will be assisted in this work by Earl Calloway, Amarillo; Floyd Dodson, San Angelo; W. N. Finnegan, Houston and H. J. Struth, Houston.

Following are the questions contained in the questionnaire mailed to operators in Texas:

1—What quantity of crude do you nominate for your requirements, from fields in Texas, by grade, daily average by months for the remainder of the year 1930?

2—What were your daily average purchases by grades and fields, from Texas fields, for the month of May, 1930?

3—What quantity and grade of crude did you bring into Texas during the month of May, 1930, from

(a) Other states (name)

(b) Foreign countries (name)

4—What is your total storage in Texas, amount and location, as of June 1, 1930?

5—What are your total stocks, as of June 1, 1930, amount, location and grade?

6—What stocks do you hold for others as of June 1, 1930; grade and location?

7—What was the available room in your storage as of June 1, 1930?

8—What are your excess or surplus stocks, by grade, as of June 1, 1930?

9—What quantity and grade of crude stocks do you consider necessary to carry in order to conduct your business in an economic manner?

Returns are expected from a majority of operators to whom the questionnaires were sent and the data received will be tabulated by the committee, for presentation before the Texas Railroad Commission at an early date. It was expected that a hearing would be held at Austin on June 20, but this hearing has been postponed to a later date. It is believed that the conclusions reached by the committee will furnish an equitable plan of proration for all producing areas within the State.

DAVID DONOGHUE

Ohio Gains Rank in Texas by Transcontinental Merger

NEW YORK.—Formal announcement was made June 16 of the conclusion of an agreement whereby Ohio Oil Company takes over Transcontinental Oil Company to form a $225,000,000 company. The proposal included an agreement by Ohio Oil Company to split each share of present common stock into two shares of new Ohio Oil Company stock and take over the assets, including all the liabilities, of Transcontinental Oil Company, paying for its stock at the rate of four-sevenths of a share of new Ohio Oil Company stock for each share of Transcontinental Oil Company.

Merger of these two companies gives Ohio Oil Company third rank among producing companies in Texas. Combined production of the two companies for the first quarter of 1930, according to gross production tax reports to the state comptroller, was 5,653,000 barrels. This was exceeded only by production for the same period of Humble Oil & Refining Company, whose production reached a total of 7,359,000 barrels, and by Gulf Production Company, subsidiary of Gulf Oil Corporation, whose Texas production for the first quarter of 1930 totaled 6,852,000 barrels.

Production properties of Transcontinental Oil Company and Ohio Oil Company's Texas subsidiary, Mid-Kansas Oil & Gas Company, consist chiefly of joint holdings in the Yates pool, Pecos County, of which they control about 40 per cent of the acreage. Though the property held jointly has a potential rating which would equal the combined companies' first quarter production if allowed to flow open for several days, it is unlikely that the Yates pool will ever be opened much wider than it is now. Engineers are agreed that production from the pool under present shut-in agreement will result in eventual recovery of a much greater total.

Consummation of the merger again calls attention to the breaking of Standard Oil Company units into each other's territories. Transcontinental Oil Company has a refinery at Fort Worth, Texas, and is a marketer in North Texas, which is also marketing territory for Magnolia Petroleum Company, a Standard Oil Company of New York subsidiary, and also for Humble Oil & Refining Company, subsidiary of Standard Oil Company of New Jersey. The new company will also market in Oklahoma, and will break into Atlantic Refining Company's marketing territory in the East.

Furthermore the merger will make possible closer business relationship between Ohio Oil Company and Standard Oil Company of New Jersey, the latter having recently announced the proposed construction of the Ajax pipe line from Oklahoma to Wood River, Illinois, where it will join with the system of Ohio Oil Company's subsidiary, Illinois Pipe Line Company.

Through an exchange of oil, production of Standard Oil Company of New Jersey's Oklahoma-Kansas subsidiary, Carter Oil Company, could supply a

(Continued on page 61)

Like Old Man Brooks

the more trouble you put us to - - - the better we like it

Two suitors asked for the hand of the beautiful daughter of old man Brooks. "I will give my daughter to the one who pleases me most in two weeks time" he said.

One young man managed it so that the old man fell into the turbulent waters of a river and then rescued him just as he was about to go over the falls.

The second young man fell in the river and allowed himself to be rescued after much effort by his prospective father-in-law. He married the daughter that afternoon.

The lesson is this. The more you let Norvell-Wilder men do for you the better they will like it. Call on them for extra service. Put them on mettle to get the order out. They will grouse about it like most oil field men—and then eat it up.

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Kerotest Manufacturing Company
Lunkenheimer Company
Wright Manufacturing Company

Norvell-Wilder *Supply Company*

BEAUMONT HOUSTON SHREVEPORT FORT WORTH

Oklahoma--Kansas Field Notes

FLOYD L. SWINDELL, *Staff Representative, Tulsa, Oklahoma*

Oklahoma City Production Off 17,889 Barrels in Past Week

OKLAHOMA CITY. — On Saturday, June 14, the Oklahoma City pool proper had 281 completed producers and a total of 369 operations including drilling wells, rigs, locations, and rigs shut down. Of the 281 producers, 38 have been completed within the last 15 days and 86 of the 369 operations are drilling below 6000 feet With the biggest producers shut-in the production for the 24-hour period ending Saturday morning was 89,981 barrels or a decline of 17,889 barrels below the production for the preceding 24-hour period. Total production for the seven-day period ending June 13 was 799,468 barrels which is an average of 114,209 barrels daily.

Five large wells were completed in the north end during the week. Slick and Atkinson's Duniven 1, S½ SW SE NW, Section 1-11n-3w, the largest of the five, came in for 1024 barrels the first hour with an estimated gas flow of 80,000,000 cubic feet. The most important well, so far as the north end is concerned is Wirt Franklin's, Wright 1, NE NE NW, Section 2-11n-3w, which has cemented the 6⅝-inch casing at 6505 feet, 56 feet off bottom. This well has had nice shows of oil and gas in several sands over an interval of 150 feet above the casing point. Should it come in as expected, the productive area will be extended approximately three-quarters of a mile to the northwest.

Sinclair Oil and Gas Company's, School Land No. 67, well No .2, SE NE SE, Section 36-11n-3w, had the top of a sand correlated as the Wilcox at 6725 feet and drilled to 6758 feet. The well produced 2780 barrels of oil and 1015 barrels of water initially. This is the third sand well reported to have made water in the pool. Indian Territory Illuminating Oil Company's, C. E. Trosper 1, NE SE, Section 11-11n-3w, a sand well, has been making about 3000 barrels of water daily for some time. One other well was reported to have shown water but according to later reports this is not a fact.

Sinclair Crude Oil Purchasing Company, has started constrtuction work on 10 80,000 barrels capacity steel tanks in Section 2-10n-3w, Cleveland County. This is the first move in the anticipation of increasing stocks of Oklahoma City crude.

Two wildcat tests in the area are causing considerable excitement with shows of oil and gas, probably in the Hunton lime. Ryan Consolidated Oil Corporation's Lawton 1, NE NW, Section 3-11n-2w, at a total depth of 6558 feet, bailed down to test a show, but encountered water and will continue drilling. Prairie Oil and Gas Company and T. B. Slick's, Dills 1, C SE NW, Section 17-13n-3w, cored a show of oil after topping the Hunton lime and later at 6417 to 6431 feet had a show in what is believed to be the Misener sand. Royalty under the well sold for $2750 per acre several days ago on the strength of the position of the Oswego lime. This well is reported to be running structurally about the same as the main pool and if successful in locating commercial production would prove a new structure.

Asher-Wanette Center of New Interest in Oklahoma

Tulsa.—The Asher-Wanette area of southern Pottawatomie County is now the most interesting of the more recent discoveries in Oklahoma. Five wells have been completed, eight are drilling and several locations have been announced. The expected potential for July is 16,000 barrels daily, with the possibility that actual potential may be much in excess of this figure.

The possibilities of the new area are unknown, due to the fact that no agreement has been reached as to the correct correlation on the sand, the exact location of structure has not been determined, and the wells now completed probably do not indicate the size of production to be expected in the future.

Payne Drilling Company's Bullock 1, SE NE Section 22-6n-3e, the discovery well, is now making about 1200 barrels daily, having increased from 900 barrels when the operators ripped the casing an additional three feet. The same company's Bullock 2, NE SE NE Section 22-6n-3e, was deepened from 3481 to 3507

General view of Oklahoma City Field—Coline

feet with a substantial increase in production. The latest producer, Prairie Oil & Gas Company's Tomlin 1, SW NW NW Section 23-6n-3e, had the sand at 3475 to 3482 feet and produced 130 barrels in 30 minutes. A large part of the oil which actually flowed was not recovered and the well is being estimated at 5000 to 6000 barrels initial. Upon completion of additional tankage a flow test will be made. Westheimer's Johnson 1, NE SE SW Section 27-6n-3e, 1¾ miles southwest of the discovery well, is reported running considerably higher on the upper formations, which indicates the possibility of more than just a minor fold.

The area is now served by lines of Sinclair Pipe Line Company and Tidal Pipe Line Company, but within a short time Texas Pipe Line Company plans to extend from the old Asher pool to the new area; and Independent Pipe Line Company will probably build a four-inch line from its terminus in Section 19-7n-5e, St. Louis pool, to Section 22-6n-3e, in the new pool. This line will be primarily to serve its own leases and the oil will be supplied to the Independent Oil & Gas Company's refinery at Okmulgee.

LATEST NEWS FROM TULSA

Tulsa.—Twin State Oil Company's Grosso 1, SW NE NW Section 32-10n-6e, between the northeast extension of Earlsboro and the Searight pool, increased production from 625 to 3000 barrels when deepened three feet to 3834 feet. There is difference of opinion as to whether the flow is from the Cromwell or Misener sand.

KONOWA

Shell Petroleum Corporation's Caesar 3, SW SE SE Section 20-6n-6e, Konowa pool, is flowing 4500 barrels. Base of the first Cromwell was found at 2925 feet; second Cromwell, 2938 to 2958 feet, there being a large increase in production in the lower sand. The same company's Caesar 1, NW SE SE Section 20-6n-6e, made 13,840 barrels on 24-hour test, flowing wide open.

Gauge for the Konowa pool at 7 a. m. Saturday, June 14, showed 23,539 barrels.

Magnolia Petroleum Company's Benedict 2, SE SW Section 7-14n-4e, deepened three feet to 5080 feet, increased production from 3200 to 4950 barrels.

OKLAHOMA CITY

Sinclair Oil & Gas Company's Vencl 6, SE NW SE Section 31-11n-2w, Oklahoma City pool, set six-inch at 6012 feet, drilled to 6735 feet where it encountered high gas pressure, estimated at 100,000,000 or more. Sand cut connections and the well started blowing wild at noon June 16, and was still loose at noon June 17. This well is 1500 feet southeast of "Wild Mary Sudik."

KANSAS

Shell Petroleum Corporation and McPherson Oil and Gas Company's Robinson 1, cSE, Section 10-19s-2w, McPherson County, Kansas, came in as a gasser estimated at 14,000,000 cubic feet at 2918 to 2956 feet, with some oil showing. This well is in the center of a large block with two other gassers nearby. Tatlock, Shell Petroleum Corporation et al's Tonn 1, NWc Section 17-25s-4w, Reno County, Kansas, came in flowing 100 barrels daily from the cherty lime at 3006 to 3011 feet. This well opens a new pool.

Phillips Petroleum Company's Horn 1, NE SW Section 5-12s-17w, had the Gorham pay at 3633 to 3640, and swabbed 600 barrels. This will probably make a good well when deepened.

Cost of Drilling Deep Oil Wells at Oklahoma City

Bartlesville, Oklahoma.—The drilling of an oil well to a depth of more than a mile is an expensive undertaking. All equipment must be unusually substantial and well designed, and many special kinds of apparatus are required.

During the past two years the Petroleum Experiment Station, maintained by the United States Bureau of Mines, Department of Commerce, and the State of Oklahoma at Bartlesville, Oklahoma, has collected data on the Oklahoma City field as part of its general study of oil fields and oil production methods.

It is the usual practice to construct two 25 by six by 90 feet slush pits and one settling pit approximately 90 by 90 by two feet, making a total amount of 1600 cubic yards of earth to be moved. The cellars beneath the derricks measure approximateley 18 feet from the derrick floor to the top of the concrete slab. The cost of constructing the slush pits averages about $650 and the cost of digging the cellars is in the neighborhood of $225, making a total cost of excavation work at each location of about $875.

The general contract price for drilling a 12-inch or 12½-inch rotary hole and completing the well with an 8⅝ inch hole is $11 per foot. For a 6500-foot well the drilling expense alone amounts to about $71,500.

Fuel requirements for drilling increase rapidly with the depth of the well, and operations in the Oklahoma City pool have proved to be no exception to the rule. Batteries of three 125 H. P. or four 100 H. P. boilers are requiring as much as 500,000 cubic feet of gas per 24 hours and the total fuel requirement for completing a rotary well in this district may run as high as 50,000,000 cubic feet of gas.

The daily water requirements per well in the Oklahoma City district change somewhat with the depth of the hole. Approximate figures from wells now drilling indicate that 3000 barrels of water per day are required for the first 2000 feet of hole, 2000 barrels of water per day from 2000 feet to 3000 feet and 1500 barrels of water per day from 3000 feet to the total depth of 6500 feet. This brings the total water requirements up to about 140,000 barrels of water to complete a well.

il Company's Natural Gasoline Plant at Right

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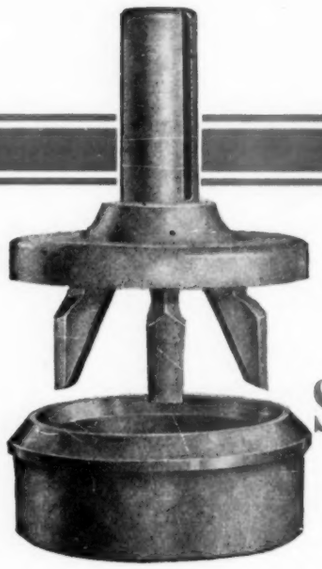

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North and West Texas Field Notes

H. H. KING, *Staff Representative, Fort Worth, Texas*

West Texas Proration Revision Up For Consideration

SAN ANGELO.—Readjustment of production allowances for three important fields in West Texas is to be given consideration in a series of meetings scheduled within the next 10 days. Introduction of a proration plan for the Judkins field, Ector County, under the guidance of the Texas Railroad Commission will be submitted to the operators this week, with possibilities of the current output being reduced to balance with actual requirements of pipe line companies.

Owners of prorated wells in the Howard-Glasscock Counties district are not satisfied with the changes made recently in arriving at production quotas, and because of complaints registered with the commission by several operators a hearing is to be held in Dallas June 24.

A meeting of the Yates field proration advisory committee and operators has been called for June 28 to decide on the question of production allowance for the field, which is limited to 110,000 barrels daily on a temporary order that expires July 1.

A movement is underway to reduce the allowance of the field to an even 100,000 barrels because of crude purchasers desiring to lower their takings from the field, but the cut would be for only such period that buyers need relief.

Two of the trio of test being drilled by Deep Rock Oil Company and associates near the latter's wildcat flowing well in Andrews County drilled past the 4500-foot level without scoring production.

B. L. King 1 was running casing early this week at 4506 feet to deepen after exhausting most of the sulphur water encountered at 4490 feet. Mathis 1 is drilling below 4532 feet, and carrying a small volume of oil in hole from saturated lime found about 100 feet above.

A 400-barrel producer is expected from A. R. King 1, a south offset to the discovery well and tubing was being rerun early this week at a total depth of 4454 feet. The discovery well is flowing about 95 barrels oil and considerable water daily at 4428 feet.

Plan Judkins Proration

Application of a proration plan to the Judkins field, Ector County, is to be given consideration by lease owners at a meeting scheduled to be held in Fort Worth June 18. This field is averaging 16,655 barrels daily from 36 flowing wells, and has 19 additional tests undereway, with derricks and rigs in place for three more operations. It has been the principal source of production increases in the West Texas district during the past two months.

Expansion of field work to the west side of the structure is a factor behind the tardy movement in adopting a proration plan, while the high sulphur content of the oil is causing it to be sidestepped by all major companies.

Cranfill Bros. Oil Company and Gulf Production Company's wildcat test on the Tubbs ranch in western Crane County reached a depth of 3405 feet June 16 without encountering oil production. This test began showing water late last week, but when given a bailing test it was found to be coming from behind the 8¼-inch casing, which was landed on top of gas formation at 2815 feet. The well bailed eight bailers water and two bailers oil, then only showed two bailers salt water when shutdown eight hours. The gas production has decreased to about 4,000,000 cubic feet daily. C. C. Duffy et al's wildcat test in southern Crane County and on the Cowden ranch in Section 31, logged the top of the brown lime at 2145 feet, with a surface elevation of 2365 feet. The latter test is being followed with interest, since it is on the same lime high trend as the Tubbs gasser.

Group One Oil Corporation's University 3-B is slated to give the Big Lake field another deep high gravity producer within the next few days, and began making heads of oil and gas at 8517 feet late last week. It was drilling in lime and shale at 8533 feet on the morning of June 16, with a good show of oil at 8524 feet. This test was drilled with rotary, and a special effort is being made to core the deep oil horizon to gain more knowledge as to its thickness and porosity. University 2-B has increased its flow to 1785 barrels of oil and is making 29,500,000 cubic feet of gas, with 400 pounds back pressure at a total depth of 8489 feet.

Crude Market Congestion Faces Young County Operators

WICHITA FALLS, Texas.—Crude market and pipe line congestion is following in the wake of a series of completions offering exceptionally large initial flow from oil sand formation at the 700-foot level in the Remington-Larimore pool, located about three miles north of New Castle in central Young County. Recent completion of a number of wells with a natural flow of more than 1000 barrels of high gravity oil on initial gauge is stimulating new field work on nearby leases. Pipe line relief is rather indefinite, as active crude purchasers in the North Texas district are endeavoring to render aid to the numerous settled properties in Wichita, Archer and Wilbarger Counties that are to be deprived of a market outlet on July 1 when Humble Oil & Refining Company carries out its recently announced intentions of discontinuing purchase of oil.

Dr. E. R. Riggs and associates' Larimore 7 topped the list of new completions for the shallow pool during the past week by recording a natural flow of 1190 barrels from sand at 688-708 feet. Larimore 6, located on the same lease, made 1100 barrels initial at 687-707 feet. O. H. Simpson et al's Larimore 1 found the sand tight, but responded to a shot of 20 quarts in sand at 685-709 feet with a natural flow of 33 barrels oil per hour. Independent Oil & Gas Company's Larimore 1, flowed 240 barrels oil during first 13 hours at 692-710 feet, while Larimore 2 made 115 barrels oil during four-hour flow into limited lease tankage facilities from the same horizon. W. B. Hamilton's second test on the Larimore-Vandivert farm made 260 barrels initial at 689-708 feet, and a similar sized flowing well was completed during the past week by W. S. Brazelton et al on the Larimore land. Water trouble developed in Panhandle Refining Company's Larimore 1 at 708-14 feet after logging oil sand at 702-708 feet, and the well is to be plugged back six feet, but is credited with having flowed 270 barrels oil and 50 barrels water during first 19 hours after given a shot of 20 quarts.

Organized efforts to attract pipe line and market relief for the numerous

leases to be affected by the withdrawal order of the Humble Oil & Refining Company is now underway, with North Texas Oil & Gas Association sponsoring a movement to attract new purchasing agencies into the three counties involved. A number of operators have agreed to contract delivery on all of their production for a period of two years with any responsible buyer.

Discontinuance of crude purchases by Humble Oil & Refining Company in the trio of counties is expected to be followed by the sale of its various producing and non-developed leases, aggregating about 2200 barrels daily. Dixie Oil Company, an aggressive subsidiary of Standard Oil Company (Indiana), is reported to be checking up on these holdings of Humble Oil & Refining Company for the purpose of acquiring them. Should the deal be consummated Sinclair Pipe Line Company would be called upon to connect with most of the properties so as to make the oil available for Standard Oil Company's (Indiana) plants.

Only one of eight tests to reach the prolific lime horizon that has yielded more than 300,000 barrels of 42 gravity oil from Nash-Windfohr et al's R. J. McCloud 1, located northeast of Graham in southern Young County, gives promise of developing production. McCloud 1 blew in April 8 at 3752-59 feet making 1000 barrels oil per hour, with the last foot of hole supplying the production apparently from a crevice. This unusually heavy producer induced independent operators and companies to start 15 deep tests, including a few that were deepened from the shallow horizons, to make a bid for a share in the flush output. T. B. Slick's Graham 1 made several flows of oil late last week from lime at 3752-3818 feet, but will be deepened and shot. The latter test is the only encouragement gained by the operators for sharing in the McCloud lime. The seven tests that missed the slated oil horizon are being carried deeper, with two exceptions. McCloud 1 is making about 2400 barrels oil daily, plus about 38 per cent salt water.

Seek to Quiet Title on Government Permit Land

Lander, Wyoming.—Producers & Refiners Corporation has brought action in district court here to quiet title to several hundred acres of government permit land in the Muskrat gas field in Fremont County, 75 miles west of Casper. Suit is against Myrin Oil Company and 25 individuals. Joining with the Producers & Refiners Corporation are 12 other plaintiffs. Oil placer mining claims and government permit lands are at issue.

Callahan County Wildcat Flowing by Heads

Ranger, Texas.—Mid-Tex Oil & Gas Company's semi-wildcat test on the Windham ranch in southwestern Callahan County began flowing by heads when agitated early this week from sandy-lime formation at 4349-4353 feet at rate of 125 barrels daily. This well is located in Section 370, and is credited with having topped the Ellenberger lime at 4230 feet, with a small showing of gas in evidence. The oil is of high gravity and of a light green color.

S. A. Hopkins of Cisco and associates are giving the Leeray district in northern Eastland County a deep test for production, and have carried their Davis 1, located in Section 54, Block 4, H. & T. C. Ry. Survey, below 5535 feet. This test developed a show of gas in sandy-lime formation at 5147 feet. It is scheduled to establish a new depth record for the district. T. H. Gordon of Cisco is superintendent of operations.

Finley-Brown Field Has 4840-Barrel Decline

Amarillo, Texas.—Substantial decline in new production sustained by the Finley-Brown field, Gray County, during the first 15 days in June is beginning to reflect in daily output of the county, as a loss of 4840 barrels was recorded during the past week. A daily average of 72,555 barrels was maintained by the county for the past week, as compared to 77,395 barrels the week previous. Sufficient tests are nearing the oil producing horizon in the known flush sections of the field to check this downward trend of production so the relief may be only temporary.

Phillips Petroleum Company's Wright-Wood 4 contributed the largest initial yield of completions made during the past week. This well is credited with having gauged 2820 barrels of high gravity oil and 10 million cubic feet of gas from granite-wash formation at 2690-2717 feet, and is much shallower than the average well in the immediate area. Magnolia Petroleum Company's Wright 9 made 680 barrels oil and 5,000,000 cubic feet gas on initial gauge at 2860-70 feet, and is a south offset to the above big producer. The Texas Company's Wright 3, an east offset to the above, made 450 barrels oil and three million cubic feet gas from broken formation at 2775-80 and 2840-45 feet, with a total depth of 2859 feet.

The southeast extension given the Bowers-Jackson field, Gray County, last April by Gulf Production Company's J. B. Bowers 1, Section 63, has been followed by the successful completion of a second well on Phillips Petroleum Company's J. B. Bowers 80-acre lease. The latter swabbed and flowed 250 barrels initial from granite-wash formation at 3090-3105 feet several weeks ago, but encountered a second oil horizon at 3172-77 feet when deepened last week, resulting in the flow increasing to 700 barrels daily. Activity in this new area is coming to life, with three new tests started last week by Gulf Production Company and The Texas Company.

Two semi-wildcat tests drilling in southern Carson County and near Empire Gas & Fuel Company's wildcat producer on the J. W. Fields land, have failed to develop commercial production. Phillips Petroleum Company's M. B. Pickens 1 missed the 3200-foot horizon, and is drilling below 3500 feet, and Cockrell-McIlroy Oil Company's W. F. Simms 1 is drilling below 3370 feet with 1500 feet oil in hole.

Van Production Extended Beyond Unitized Area

Corsicana, Texas.—Extension of the productive limits of the Van field to the northeast and beyond the area controlled by the unit plan of development appeared promising early this week when Humble Oil & Refining Company's wildcat test on the Mrs. E. E. Carroll 95-acre lease prepared to set casing for a test at the 2800-foot level. This outpost test is credited with having logged the Austin chalk formation at 2551-2749 feet, and the top of the red beds at 2775 feet, with a surface elevation of 472 feet. The log correlates favorably with a number of producers in the field proper.

A string of casing was being cemented early this week on the Carroll test at 2819 feet after the crew recovered an oil saturated core in sand that has been identified as the upper series of the Woodbine. This semi-wildcat test looks promising for developing commercial production, and The Texas Company is making plans to drill an offset to the east, while both Humble Oil & Refining Company and Pure Oil Company will come in for offsets to the south.

Negotiations are going forward for the formation of a second unit plan on the east side of the Van unitized area to take in the area around the Carroll test. Since the bulk of the acreage is held by the same group of companies that are joint operators at Van there is little doubt but what the new area well be developed on a conservative basis.

L. B. Pruitt and Imperator Oil Company's G. W. Carter 1, located on a 15.87-acre vacancy strip and east of the northeast corner of the lease bearing the above test, continues to run low on all key formations, and early this week was drilling below 3380 feet. Carter 1 logged Austin chalk at 3063-3134 feet, with a surface elevation of 437 feet.

Production in the Van field is being held at about 25,000 barrels daily. During the past week two inside locations on the Shell Petrtoleum Corporatiton's contribution to the unit plan were completed, while one new producer was added by Pure Oil Company, which is developing the field on a unit plan basis. The new locations were made on the latter company's leases.

Shell Rushing Work on Line to Serve Hobbs Area

Artesia, New Mexico.—Shell Pipe Line Company is rushing constrtuction work on 22 miles of eight-inch welded line to provide crude transportation facilities for the three completed wells held by the Shell Petroleum Corporation in the Hobbs field. This line will originate on a tank farm and field station site in the SE Section 16-19s-38e, near other tank farms serving the Hobbs field, and make connection with the six-inch line of The Texas Pipe Line Company near the southwest corner of Section 19-22s-37e, Lea County. The latter company has contracted to transport Hobbs field crude on a common carrier basis to Wink station, Winkler County, Texas, where the oil will be delivered to Shell Pipe Line Company. This joint transportation arrangement will later be supplemented by Shell Pipe Line Company extending south to connect with its West Texas system, while The Texas Company will make use of the former's line out of the Hobbs field for an indefinite period.

Production Big Division of A. P. I.

New York.—The Division of Production, with 590 members, leads the American Petroleum Institute list of division enrollments, according to the latest figures. The division of marketing is second with 397 and the division of refining third with 311 enrollments.

The total of 1298 does not represent the entire membership of the Institute, but only the enrollment in the three divisions since the divisional plan became effective February 11, 1930. Each member of the Institute is eligible to enroll in the division whose activities coincide with his own in the petroleum industry. It is expected that eventually the entire membership of the Institute will be enrolled in the three divisions.

Chairmen of the divisions are: production, William N. Davis, Phillips Petroleum Company, Bartlesville, Oklahoma; refining, W. M. Irish, Atlantic Refining Company, Philadelphia; marketing, Henry M. Dawes, Pure Oil Company, Chicago.

Migration of Natural Gas From Injection Wells

San Francisco.—An investigation of the direction that natural gas migrates from injection wells is being conducted by engineers of the San Francisco field office of the United States Bureau of Mines, and some very interesting facts are being determined. From data collected it appears that gas migrates theoretically fan shape from the injection wells and that the angle of the fan depends upon the dip of the formation.

In a level sand (90-degree dip) the gas migrates in all directions and the angle of the gas fan can be taken as 360 degrees. If the formation stands on end (0-degree dip) the gas theoretically should go straight up and the angle of the gas fan would be 0 degrees.

The data further show that the fan angle decreases as the slope of the formation increases. When the slope is about 30 degrees the fan angle is about 100 degrees and when the slope is five degrees the fan angle is 190 degrees. This information should be of real value in locating injection wells particularly in California, where many oil structures have steep slopes.

Canadian Annual Report Shows Production Up

Calgary, Alberta.—Crude oil production of Alberta during 1929 was more than double that of 1928, according to a report compiled by the Department of the Interior. Total production for the year aggregated 999,152 barrels, a gain of 509,621 barrels over 1928. Following are the annual crude oil production figures for the last five years:

	Barrels
1925	168,643
1926	219,598
1927	332-133
1928	489,531
1929	999,152

Turner Valley field was by far the largest producer during 1929, contributing the bulk of all the oil produced in the province. This field contributed a total production of 981,221 barrels, while the Wainwright field produced 12,332 barrels; Ribstone, 2839 barrels; Skiff, 1432 barrels, and Red Coulee field, 1328 barrels.

The Wainwright, Ribstone and Skiff fields produce crude of 30 gravity or less, while the Red Coulee field is rated as a light oil producer, ranging in gravity between 30 and 60 degrees. Turner Valley represents the cream of light oil production, which is mostly of the valuable naphtha grade, or 60 degrees or over.

Cut Bank Area

Great Falls, Montana.—Producers & Refiners Corporation has recently entered Montana and will drill wells in the Cut Bank area which to date has been proved for commercial gas and had exceedingly promising showings of oil, but not in commercial quantities. The company will drill three wells on acreage it has recently acquired.

Cabin Creek

Glendive, Montana.—By far the largest gas wells ever to be completed in the Cabin Creek field near here, Eastern Montana, are the three brought in last week by Gas Development Company, a subsidiary of Minnesota-Northern Power Company. The largest well produced 27,600,000 cubic feet, and the other two produced 26,250,000. Average depth is 1200 feet. Wells in this district have heretofore been good for 2,000,000 to 5,000,000 cubic feet.

Ohio Gains Rank in Texas by Transcontinental Merger
(Continued from page 54)

part of Ohio Oil Company's Mid-Western needs, while the Yates pool production would supplement the requirements of the parent New Jersey company on the seaboard. In the latter case, this is now partly accomplished through a temporary arrangement which will now probably become permanent.

Fort Worth, Texas.—Merging of Transcontinental Oil Company with Ohio Oil Company is largely due to the two companies being fifty-fifty owners of more than one-half of the producing acreage in the Yates field, which is credited with an estimated daily potential yield of 5,392,730 barrels. The above two companies are credited with 2,917,426 barrels daily potential from 117 wells, or considerable more than 50 per cent of the total potential. These joint properties are earning a daily production quota of 52,662 barrels of the 110,000-barrel allowance now enjoyed by the field.

Ohio Oil Company operates in Texas as the Mid-Kansas Oil & Gas Company, which is in charge of developing the Yates field properties and also has contract to market all the oil. This contract prevented Transcontinental Oil Company from building a projected pipe line from West Texas to the coast several years ago, or from making an alliance with other companies. Since Transcontinental Oil Company has its trade territory.

The pipe line is operated as United Producers Pipe Line Company, a fully owned subsidiary of Transcontinental Oil Company. Transcontinental Oil Company has been a consistant wildcatter in Texas for years, usually assembling huge blocks and playing for heavy stakes.

The outstanding strike was that made in Pecos County through joint operations with Mid-Kansas Oil & Gas Company, which obtained a half interest for drilling the discovery well of the Yates field. The former has a half dozen wildcats underway in the state, and a number proposed.

Refineries at Bristow and Boynton, Oklahoma and at Fort Worth, with wholesale and retail sales organizations to support them, a new unit of the Standard group will be bidding for marketing business in the two states. It has not been made known as to whether the well established trade name of Transcontinental Oil Company will be retained, or whether Ohio Oil Company will endeavor to introduce its name into the new territory.

The Fort Worth refinery is served direct by a six-inch pipe line from the Ranger and Desdemona districts, and has established a sizeable wholesale and retail market outlet for refined products throughout North Texas.

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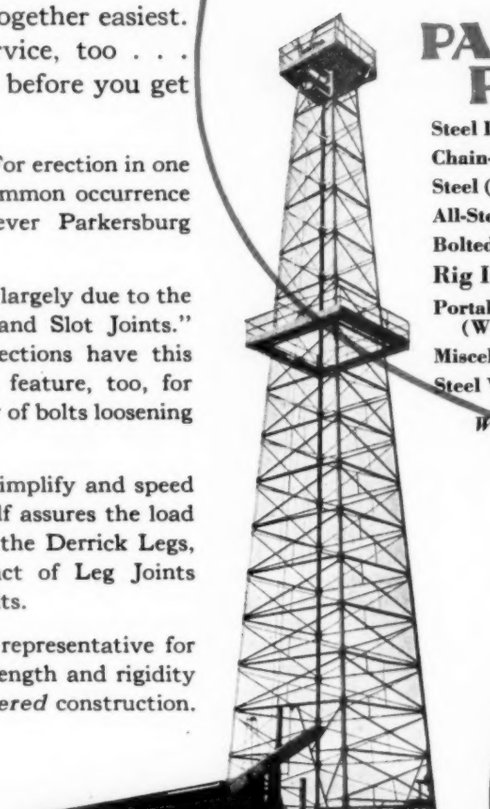

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Gulf Coast Field Developments

JACK LOGAN, *Staff Representative, Houston, Texas*

Pettus Field Extended Mile West; Town-Lot Drilling Looms

HOUSTON.—The Pettus field, Bee County, has apparently been further proved up by Houston Oil Company's J. R. Beasley et al 1, Pettus Town Block 36, which made a favorable showing early this week on drill stem test.

On the test the well filled the drill stem with 11 fourbles of oil in eight minutes and showed 100 pounds pressure after being closed in for four minutes. The top of the sand which was tested, was at 3896 feet, surface elevation of the well is 335 feet.

This test is about one mile west of the main Pettus field, and two miles east of the recently completed Cosden Oil Company producer, McKinney 1, being about in line with those two producing areas. Exact location of the Houston Oil Company well is 150 feet each way out of the southeast corner of Block 36, Pettus townsite.

Judging by the preliminary test the well will develop fair production when cased and completed, and since it is located in the town of Pettus, a town lot drilling campaign appears to be in prospect.

Compared with the wells in the main Pettus field, Houston Oil Company's Beasley 1 is high structurally. The discovery well of the main field, Humble Oil & Refining Company's McKinney 1, logged the producing sand at 3957-3971 feet, and wells farther south are still lower on structure. The Houston Oil Company test, however, is not as high on sttructure as the above mentioned Cosden Oil Company producer to the west, the latter having encountered the top of the Jackson about 200 feet higher than it was found in the main Pettus field discovery well. The Cosden well came in originally late in May for initial production of about 260 barrels 46 gravity oil at 3655-68 feet, but it was recently deepened nine feet, following which it increased in production to about 400 barrels daily.

During the past week two new producers were completed in the main Pettus field, Union Producing Company's Ray 9, which came in flowing 800-barrels daily through a three-eighths-inch choke from sand at 3998-4015 feet, and Humble Oil & Refining Company's McKinney 3, which also had initial production of 800 barrels, from sand at 4006-4015 feet, flowing through a three-eighths-inch choke, registering pressure of 450 pounds on tubing and 1000 pounds on casing. Those two wells, 500-foot east and west offsets to each other, are on the south side of the present productive area, and both are about 40 feet lower on structure than the nearest former producers, 600 feet to the north.

There are now eight completed oil producers in the Pettus area, seven in the main field, and the one owned by Cosden Oil Company on the McKinney land. During the week ending June 14 average daily production of the eight wells was 4731 barrels, divided as follows:

Company and Lease—	No. Wells	Av. Daily Prod.
Cosden Oil Company, McKinney	1	268
Union Producing Company, Ray	4	2599
Humble Oil & Refining Company, McKinney	3	1864
Total	8	4731

Pettus is now one of the most active areas in South Texas, with nearly 20 rigs in operation there. Various wells have been started on locations offsetting Cosden Oil Company's producer and between it and the main field, but most of them have not yet reached interesting depths.

Darst Potential Is Down Despite New Completions

Houston.—In spite of the completion of 10 wells during the first half of June at Darst Creek, increasing the total number from 132 to 142, the potential daily production of the field was increased less than 1000 barrels when the new semi-monthly proration schedule went into effect June 16. For the gains made by the new wells were about offset by the regauging of some other wells, notably Magnolia Petroleum Company's "gusher," M. E. Roamel 1. On the new schedule that producer and another one, M. E. Roamel 2, both on the same 20-acre proration unit, show combined potential of 10,672 barrels daily. On the previous schedule their combined potential was 20,672 barrels, and on the one before that 43,368 barrels. No. 2 came in as a 1440-barrel well, while No. 1, the "gusher," came in the latter part of March, showing potential of 41,928 barrels daily on the first proration gauge, producing from crevices at the top of the Austin chalk.

North Dayton Well Still Producing 2400 Barrels

Houston.—Houtex Production Company's Deering-Wilhite 1, completed several weeks ago on the south flank of North Dayton dome, Liberty County, as a prolific producer, is still holding up at 2400 barrels daily. While the pressure has gradually decreased, and is now 575 pounds, the flow has remained the same since a short time after the well was completed. The production is 43 gravitty pipe line oil, temperature 80 degrees.

Houtex Production Company (Harvey S. Smith interests) spudded in June

POTENTIAL AND ALLOWABLE PRODUCTION AT DARST CREEK

Totals taken from official proration schedule effective June 16 to June 30, inclusive.

	No. Wells	Units	Total potential	Av. Pot'l per unit	Unit allowance	Potential allowance	Daily allowance
Abercrombie et al	2	1	4,170	2,085	97	171	268
Empire Gas & Fuel Co.	7	5	4,353	3,405	485	279	764
Gulf Production Company	23	16	65,253	40,694	1,552	3,328	4,880
Humble Oil & Refining Company	31	19	29,136	1,810	1,781	1,561	3,342
Louisiana Oil Refining Corporation	9	8	28,747	26,072	776	2,132	2,908
Magnolia Petroleum Company	16	10	23,292	13,694	970	1,121	2,091
Penn Oil Company	1	1	244	244	97	30	127
Stroube & Strouge	1	1	230	230	97	28	125
Sun Oil Company	8	4	18,081	9,041	388	739	1,127
The Texas Company	38	27	53,763	38,209	2,553	3,124	5,677
Dr. F. L. Thompson	1	1	73	73	73	...	73
Trinity Drillers	5	4	2,064	1,973	382	164	546
Field Total	142	97	229,406	153,827	9,251	12,677	21,928
Previous Total	132	96	228,509	162,955	9,135	13,267	22,402

Bay Junop Dome

Houston — The Texas Company has abandoned its wildcat Louisiana Land & Exploration Company-Bay Junop No. 1 on Bay Junop dome, Terrebonne Parish, Louisiana, 20 miles south of Houma, at 10,805 feet in lime. Operations were commenced on the well on March 15, 1930, and it was completed on May 15, 1930. Top of the lime was encountered at 10,805 feet. Drilling was stopped at 10,805 feet. Drilling was stopped at 10,805 feet. Drilling was stopped

News From California Fields

[illegible] Correspondent, Los Angeles, California.

Price of Santa Fe Springs Crude Restored

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[illegible]

10 on Deering-Wilhite 2, which is slightly east of No. 1. The same company's Brown-Tadlock 1, located a short distance west of the above producer, was drilling sandy shale late last week at 4973 feet.

The Texas Company's Paraffine-Fee 1, a west offset to Harrison Oil Company and Humble Oil & Refining Company's Fee 1, a producer on the south flank of North Dayton dome, swabbed salt water following setting of 30 feet of 4¾-inch screen at 5326 feet, and will be deepened.

Victor Oil Company's Gulf Fee 1, located within the deep sand proven area, flowed at the rate of 100 barrels daily from 30 feet of sand at 5134 feet, but is now being washed with oil. The same company's Gulf Fee 2, which sidetracked at 4300 feet after testing salt water at 4768 feet, is now milling at 4450 feet.

Houston Building Tanks Near Corpus Christi

Houston.—Houston Oil Company plans immediate construction of a tank farm at Violet, near Corpus Christi, to be followed possibly by a refinery and a deep-water terminal.

E. H. Buckner, president of the company, verified a report that the tank farm would be built, and that it will include from six to ten 55,000-barrel tanks. Other details in connection with the project were not made known, however.

Houston Oil Company is one of the largest oil producers in the Refugio field, as well as being one of two companies piping natural gas out of that field. From Refugio to the White Point gas field, San Patricio County, adjacent to Nueces Bay, Houston Pipe Line Company, subsidiary of Houston Oil Company has a natural gas line, and present plans call for converting that gas line into an oil carrier, and for adding an extension on to the tank farm.

Houston Oil Company is also interested to considerable extent in the Pettus area, owning numerous leases there which promise to be productive, and should future conditions warrant, the Refugio line will be extended northward to that district. Early this week Houston Oil Company's Beasley 1 in the town of Pettus gave indication on drill stem test that it will develop commercial production.

Brooks County

Houston. — Houston Oil Company's Wormser 1, semi-wildcat in the northwest part of Brooks County, has been completed at 3814 feet as a 35,000,000-foot gas well, and has been turned into the pipe line system of Houston Pipe Line Company, leading out of the Cole-Bruni field, Webb-Duval Counties, eastward to Houston and vicinity. The Brooks County well is about 20 miles south of that trunk line.

Wormser 1, the new gas well, is 660 feet south of Houston Oil Company's Lassiter 1, the Brooks County field discovery well, also a gas producer, and is 300 feet higher on structure than Lassiter 1.

Two 5500-Foot Wells At Refugio

Houston. — Two 5500-foot wells were among those completed during the past week at Refugio. Houston Oil Company's Kay 1, located 1500 feet west and a little north of Union Producing Company's O'Brien 1, 5500-foot sand discovery well, came in flowing 500 barrels of pipe line oil daily through one-quarter-inch choke, with working pressure of 1050 pounds, following setting of 15 feet of screen at total depth of 5478 feet.

The other new deep producer is Independent Oil & Gas Company's Mercy Academy 1, a west offset to Union Producing Company's Mitchell 2 producer. It came in producing 75 barrels daily, and with working pressure of 1050 pounds, pinched in with a one-half-inch and a one-quarter-inch choke.

Houston Gulf Gas Company's Morgan-Shelly 4 came in flowing approximately 900 barrels daily from sand at 3645-51 feet. Houston Oil Company's Ryals 2 was completed as a gas well with 900 pounds pressure after 15 feet of screen had been set at 3517 feet. Rutherford-Traylor Oil Company's Cable 2, located at the center of Lot 17, Block 4, Town Commons, came in flowing 550 barrels, with no gas, through open two-inch line, after 18 feet of screen had been set at 3682-3700 feet.

Esperson Dome Deep Test to Drill Plug

Houston. — Cranfill-Reynolds Company expected to drill plug June 18 in Vajdak 1, deep test on the east flank of the Esperson field, Liberty County. Four and three-quarter-inch casing is cemented over oil sand which was logged at 6990-7067 feet.

That company's Esperson 5 on the west side of the field is reaming to set casing at 5400 feet. Esperson 9 is temporarily abandoned at 4971 feet. Esperson 12 has set casing at 2390 feet over oil sand, and Esperson 13 has also set pipe over sand at 2330 feet. Davis 4 would not flow after screen was set at 2335 feet, and will be put on the pump. The company has made location for Moores Bluff Corporation 3 at a point 650 feet from the east line and 550 feet from the north line.

Yount-Lee Oil Company's Moores Bluff Corporation 3 had sand with oil show at 5843-48 feet, and was later reported drilling shale at 5995 feet. Republic Production Company's Moores Bluff Corporation 1, located northeast of production in G.C.&S.F. Railroad Survey No. 37, is drilling water sand at 3185 feet.

Bay Junop Dome

Houston. — The Texas Company has abandoned its wildcat, Louisiana Land & Exploration Company-Bay Junop 1 on Bay Junop dome, Terrebonne Parish, Louisiana, at total depth of 4935 feet, after encountering top of cap rock at 4850 feet. The location of the well is 50 feet north and 30 feet east of the southwest corner of Section 27-21s-14e.

This is the second test drilled on Bay Junop dome by The Texas Company, the first having been a non-producer also. That test, Bay Junop (or Taylor Bayou) 1, located 2400 feet west and 1325 feet south of the northeast corner of Section 28-21s-14e, was abandoned early this year in cap rock at 5099 feet. A drill stem test at 4800 feet showed salt water with a scum of oil.

Acadia Parish

Houston.—Calcasieu Oil Company and associates, Union Sulphur Company and Magnolia Petroleum Company, have abandoned the wildcat test, Hayes 1, in Acadia Parish, Louisiana, three miles northwest of Iota, in sticky shale at 6629 feet. Location of the well was made on basis of a seismograph survey. The test was 1320 feet south and 1320 feet west of the northeast corner of Section 10-8s-1w.

Determine Strength of Oil Shales by Compression

Washington, D. C.—Experiments to determine the compressive strength of some of the oil shale strata in Naval Reserve Numbers 1 and 3 have been conducted by the United States Bureau of Mines, Department of Commerce, in co-operation with the State of Colorado in the laboratories of the University of Colorado. Shale specimens of known oil yield were prepared from representative strata.

The mahogany shales produce 40 to 45 gallons of oil per ton, and a difference of five gallons per ton did not appear to have any marked effect on the compressive strength of this shale. All of the samples tested on this grade failed between 13,700 and 17,600 pounds per square inch. Other shales yielding 35 gallons of oil per ton failed at about 13,000 pounds pressure per square inch. Shales containing six gallons of oil or less failed anywhere between 10,700 and 29,200 pounds pressure.

Many of these lean shales contain considerable compact siliceous seams which when taken by themselves are much harder than the rest of the bed.

A specimen of Australian shale, carrying 150 gallons of oil per ton, was also tested and found to fail at 15,600 pounds pressure. These tests indicate that the compressive strength of oil shales yielding over 30 gallons of oil per ton of shale ranges between 13,000 and 18,000 pounds per pressure per square inch, and that lean shales may fail at 10,000 pounds pressure, or they may stand as much as 30,000 pounds.

Farnham Dome

Price, Utah.—Fulton Petroleum Corporation has completed a "dry ice" well on Farnham Dome, 12-15s-11e, some 12 miles northeast of this town. Total depth is 3108 feet. A pipe line is to be run from the well to Wellington, on the Denver and Rio Grande railroad five miles away, and the product will go to Carbon Dioxide & Chemical Company at Seattle.

News From California Fields

BRAD MILLS, *Staff Representative, Los Angeles, California*

Price of Santa Fe Springs Crude Restored

LOS ANGELES.—The outstanding development in California the current week was the announcement of Standard Oil Company of an advance in the price it offers for Santa Fe Springs crude oil from 75 to 90 cents per barrel, effective June 14. These prices restore the schedule in effect prior to the reduction of May 17, and the announcement brings the price offered in the field in line with those offered in other Southern California fields.

This move appears well justified, for the field is fast moving to a condition of being not particularly dangerous to conservation. A glance at the capacity of new wells coming in at Santa Fe Springs convinces the observer that the field has seen better days. This past week two Meyer zone wells were completed for an average of 140 barrels. In the Buckbee zone a 125-barrel well was placed on production. The Clark zone up to 30 days ago was the glory of the famous field. Last week five wells were completed averaging 225 barrels. These wells ran in depth from 7300 feet to 7800 feet. Thus it will be seen that operators are not going to spend from $125,000 to $200,000 drilling these deep holes.

Development operations at Santa Fe Springs have dropped to a "new low." There are only 37 active wells in the field, and of that number only 16 are drilling. The other 21 include two wells swabbing for production, one a wildcat exploration project, and 18 wells are being worked over, plugging back from one zone to another in vain efforts to get some kind of output.

Los Angeles Basin's newest oil field, Venice Del Rey, is fast becoming a factor for conservation consideration. In less than a week the production has increased from 2500 to 7000 barrels. A conservative estimate on what can be expected from a survey of the present development-drilling would place the field's output in 30 days at 25,000 barrels. The latest acquisition to production included a 3500-barrel well by the Star Petroleum Company and a 1500-barrel well by the Deuel Petroleum Corporation.

The problem of taking care of Venice production appears to be nearing a solution. The Seaboard-Midland Petroleum Corporation of New York has established a California office at Los Angeles, and will operate at Venice under the name of Del Rey Oil & Refining Company. The company has plans underway for the immediate construction of a casinghead gasoline plant, and may build a large refinery in the near future. In the meantime the refining and exporting company is purchasing and storing oil.

Long Beach continues as the wonder oil field of California. The total output this past week averaged 93,150 barrels daily from 715 wells. This figure is an increase over the past week of 1800 barrels. The new allowable for Long Beach was set at 91,640 barrels, so that there is an excess production of some 1500 barrels. The field is again the most active in the state from the standpoint of development with over 100 wells drilling.

Potrero-Inglewood has moved back into the limelight. A few weeks ago there was little or no development. Today field reports show 14 wells drilling, and seven projects rigging up and building rigs. The recent success of the Taylor Drilling Company in placing on production a 900-barrel well making a 38 gravity, clean oil product has convinced operators that there is a lot of good production in this field free from water and they are going to make an effort to get it.

Torrance Field Idle

The old Torrance field has been idle as far as new drilling operations are concerned for more than four years. Just recently the feeling that there is a deep sand there has been revived and three projects are under way to search for it. Superior Oil Company is leading the deep sand exploration work.

In Northern California interest again centers on the famous Kettleman Hills gasoline field. A check of the production shows that some 15,000 barrels of oil and 465,000,000 cubic feet of gas are being produced, also 11,000 barrels of casing head gasoline from six wells. As the oil in the field is practically all gasoline, it will be seen that there is being produced more than 26,000 barrels per day of gasoline which is equivalent to gasoline produced from 75,000 barrels of Elwood or Santa Fe Springs crude, or 150,000 barrels of Inglewood and Huntington Beach crude. There are 18 wells in the sand which have been suspended, and possibly 18 more that could be completed in a short time. Thus it would be evident that within the period of a few months about 40 wells could be put on production with a probable output of 150,000 barrels of gasoline.

Inasmuch as the normal market for gasoline in California is about 120,000 barrels per day, it is not hard to see that without rigid conservation this area would compel all the rest of California to take a prolonged vacation.

Kettleman Hills most recent producer is General Petroleum Corporation's Ochsner 2, finished at 7691 feet. It came in with an estimated production of 6000 barrels of 60 gravity oil and 150,000,000 cubic feet of gas. This well is making a very exceptional showing on account of the fact that it cored approximately 450 feet more of the Temblor zone than any other well in the area.

Production figures for California as of June 14 show an increase over the previous week of 7800 barrels. The major portion of the increase is accounted for by flush production from Potrero and Del Rey. Those fields are rapidly becoming a factor in the conservation problem of the state. Del Rey alone is estimated to be capable of producing at least 15,000 barrels per day new production by August.

Prospects, however, are brighter than for some time. Curtailment has been a distinct success in all fields. Santa Fe Springs having, through pinching in of wells and natural rapid decline, entered the fold, has had the price of its crude raised to former levels. Signal Hill production has been kept close to its allowable.

There is every reason to believe that during the summer months increased gasoline consumption will reduce gasoline stocks and so bring the demand to a level nearer that of the supply.

Retail Gasoline Prices Sag

Retail gasoline prices continue to sag with many large dealers selling at 17½ cents. Some dealers in lesser known brands and bootleg gasoline are selling as low as 12½ cents per gallon.

Following is detailed information on some of the interesting field operations in

California. At Venice-Del Rey A. T. Jergins' Robertson 1, total depth 3905 feet, cleaned out to 3885 feet, was bailed, and sand heaved to 3100 feet. The well showed considerable gas. It will be cleaned out and a liner run for a production test. Mohawk Oil Company's J-1, depth 3866 feet, plugged to 3800 feet, and 8⅝-inch casing cemented at 3472 feet, will be tested in the upper zone. Approximately 30 feet of oil sand was cored. Superior Oil Company's Moses 1 is drilling at 3837 feet in shale with streaks of oil sand. Top of sand was cored around 3450 feet. Union Oil Company's Del Rey 1 is fishing for liner, its depth being 3636 feet.

General Petroleum Corporation's Crandall 1, at Goleta, Santa Barbara County, is preparing to core ahead from 4600 feet after effecting successful water shut-off.

Richfield Oil Company's Hobson State 3 at Rincon, Ventura County, is a tideland location 400 feet southwesterly along westerly permit line, thence 200 feet southeasterly at right angles from most northerly corner of permit 52. It offsets General Petroleum Corporation permit to the east. General Petroleum Corporation's Ferguson 2, which was killed recently to clean out, failed to produce as before when put back on production. It was put on compressor but showed 14 per cent cut sand and water, and is now standing plugged at 3214 feet, the bottom of the upper perforations of the liner. The upper zone will be tested for water.

Shell Oil Company's Porter Day 1, Section 29-30-29, Weed Patch, Kern County, depth 4965 feet, cored sand showing oil at 4889-4965 feet. The hole is now being reamed. The formation is said to correlate with the Kern River series of the Kern River field, but the sand appears to contain a much higher gravity oil than found there. The showings, however, are said to be only fair, and the well may be cored ahead before a production test is made.

In Kern County, Semitropic, Shell Oil Company's Williams 1, Section 17-27-23, depth 2465 feet in gas sand, is being tested for the second time for water shut-off; 13⅜-inch casing having been cemented a second time.

At McKittrick, Kern County, Ohio Oil Company's M. & M. 1, Section 32-20-22, is drilling at 6000 feet in hard brown shale. Gray sand, showing cuts, was cored from 5885 to 5960 feet.

Prove Tensleep Sand at Little Lost Soldier Field

Rawlins, Wyoming.—The Tensleep sand is, for the first time, proved in the Little Lost Soldier field, in Carbon County, Wyoming. Prairie Oil & Gas Company has a production of 1250 barrels of 34.5 gravity oil in its No. 75-A on Lease "A" from a total depth, 14 feet in the producing sand, of 3962 feet. Well is shut in. Tensleep was recently proved on Mahoney dome, southeast of Lost Soldier, in a joint test drilled by Midwest Refining Company and Producers & Refiners Corporation.

Proposed Unit Lease Law Approved by Wilbur

Washington, D. C.—Approval of legislation introduced by Representative Colton of Utah to amend the leasing act so as to permit cooperative unit operation of oil pools was voiced by Secretary of the Interior Wilbur June 12 before the House committee on public lands.

Present methods of development, the secretary indicated, are wasteful and uneconomic and are a contributing factor to overproduction. Large quantities of natural gas are lost, because with competitive drilling there is no way of disposing of the gas which comes from the many wells which may be drilled on a particular tract. Gas, unlike oil, he told the committee, cannot be stored but if not used immediately is wasted.

Unit operation on government-owned lands would increase the royalty returns, he pointed out, through the conservation of gas which is lost under present methods. The legislation, recommended by the department, would provide a legal basis for arrangements which are already in effect, and would give the department more power. He asserted, however, that the law would not make it compulsory upon any operator to enter the unit plan, although it would be to his interest to do so.

An increase in the length of leases, now limited to 20 years, the secretary recommended, would be advisable if the unit plan were adopted. Under the present leasing law drilling has been compulsory, but the department believes that this should be changed and that emphasis should be laid upon conservation and efficient production, rather than quick royalty returns.

Get Gasser at Craig

Denver.—Midwest Refining Company's wildcat well on the Bell Rock structure, nine miles west of Craig, Colorado, blew in with a 30,000,000-foot flow of gas last week at 2857 feet. No production of either gas or oil had been anticipated in this field at less than 4000 feet, and the discovery of gas caused no end of excitement in oil circles here and at Craig. The well is now standing shut-in, pending orders from company officials.

Fire at Lance Creek

Lusk, Wyoming.—Drilling rig over Ohio Oil Company's deep test in the Lance Creek field, in eastern Wyoming, was destroyed by fire last week and crew is now rebuilding to continue the test bottomed at 3040 feet. Fire is supposed to have been started by a spark from the electric light plant which dropped into a can of gasoline. Three workmen were injured, but none seriously.

Denver.—Texas Production Company's wildcat well on White River Dome, in Rio Blanco County, is making about 2,000,000 feet of gas from a sand at 5545-65 feet; it has a pressure of 1300 pounds. Gas is allowed to blow every day in an attempt to clean the well.

Hobbs Production Possibilities Proven by Completions
(Continued from page 36)

proration program will be supported by the State of New Mexico, according to present plans. Each lease in the field will be split up into 40-acre units, with 25 per cent of the allowable production determined on an acreage basis, while the remainder shall be earned from average potential production of wells on each unit. This arrangement does not forbid development work to proceed, but places a penalty on unnecessary development work during the period that production is greater than the market outlet.

Co-operation of New Mexico officials is expected to be given the proposed proration program, since a wide-open drilling and production campaign at Hobbs is almost certain to bring on a collapse of the crude price structure. The state is a heavy potential royalty owner in the field, owing to many tests being located on its fee lands.

Shell Pipe Line Company is starting work on 22 miles of eight-inch welded line to extend from the Hobbs field to the southwest to make connection with The Texas Pipe Line Company's Jal-Lea-Lynch six-inch unit. The latter will then transport crude for the Shell Petroleum Corporation to Wink, Winkler County, where the oil will be diverted to tanks of Shell Pipe Line Company. The Texas Company, which is drilling three tests in the Hobbs field, will make use of this joint crude movement also. Humble Pipe Line Company has an eight-inch line leading south from its two large tanks in the Hobbs field, but is mostly confining its runs to current output of the Bowers well.

Midwest Refining Company has lately made four locations in Section 4-19s-38e, and made a fifth one to serve as the east offset to its discovery well of the field.

QUESTIONS

1. What is meant in the wording of a lease by the phrase, "oil in paying quantities?
2. What is a fault?
3. What is kerogen, and what is obtained from it?
4. When was the carbon black industry started and what is its status at present?
5. What is the procedure when fishing for a broken stem?
6. Which is the more difficult well to log, rotary or cable tool drilled?
7. When is it good practice to use spiders and slips?
8. How is the oil content of sand computed?
9. What is stopcocking?
10. What is Jamin effect?

(*For answers see page 91*)

WORLD PETROLEUM IN REVIEW

Caracas, Venezuela. — Creole Petroleum Corporation, operating in the State of Monagas, Eastern Venezuela, where extensive holdings have been exploited by the completion of 12 producing wells at depths from 2000 to 3100 feet, is preparing to give the area a conclusive test by putting it on a commercial basis.

Initial output of these 12 wells of the so-called Quirequire field, according to early advices, indicates a potential production of about 9000 barrels a day, of 15.5 gravity oil.

A loading dock is being built at Caripito on the San Juan River, about 75 miles from its mouth, where it empties into the Gulf of Paria, opposite Port-of-Spain, Trinidad. By June 1, the company expected to run oil through the eight-inch pipe line, which connects the Quirequire field with the loading docks, a distance of 29 kilometers. Steel storage has been built at the river terminus of the line totaling 90,000 barrels.

Fushun, Manchuria. — The first unit of the old-shale plant which has been under construction for the past two years, was put in operation by the South Manchurian Railway Company. The plant now is producing 1500 tons of crude oil, with potential output of 6000 tons a month when finally completed. Shale is mined at the colliery of the railway at Fushun, and is processed by the Scotch method.

Moscow. — Preliminary figures for the six months of the fiscal year show crude oil production in Russia to total 7,652,000 tons. During this period, 234,500 metres of hole were drilled. And crude treated at the refineries in Baku and Batoum totalled 5,993,000 tons. These figures are in excess of any production for a like period in the history of the Russian oil industry.

Greifswald, Pomerania. — Indication of the interest shown in the complete exploitation of all potential German oil areas was given recently when an 85-foot derrick was erected at Behrenhohh, marking the actual beginnings of operations which originated three years ago when an exploratory company was first formed for the purpose of concluding prospecting agreements at Wolkwitz, Borrenthin and Berenhoff.

Preliminary investigations, it is said by officials of this exploratory company, are ample justification for belief that success may be realized.

London.—Total volume of petroleum products exported from the United Kingdom in April, according to official returns, amounted to 6,408,425 gallons as compared with 5,484,443 gallons for the same month of 1929. The April total, however, is a decrease of 1,575,038 gallons under exports for the previous month this year. Exports itemized are as follows: motor spirit 1,809,090 gallons; illuminating oil, 1,172,486 gallons; lubricating oil, 573,835 gallons; gas oil, 879,750 gallons; and fuel oil, 1,908,732 gallons.

Moscow. — The new pipe line from Baku to Batoum, a distance of 500 miles, was put in service April 28. Oil pumped over the line during the initial stages of operation indicates that the line will have little trouble handling the amount of 1,640,000 tons contemplated for a year's run.

After a search for oil near Victoria, Australia, covering a period of more than 16 years, South Australia Oil Wells Company brought in a well at 1250 feet, early in May, which, when deepened, made 10 barrels daily, according to a letter received by The Oil Weekly. The crude is a light greenish color of 20 gravity Baume. On analysis it showed a small percentage of gasoline content, 24 per cent heavy kerosene, 57 per cent light and heavy lubricating oils, and 16 per cent bitumen.

The well is situated in the Gipslam district of Victoria, 200 miles from Melbourne, and within two miles of the coast.

Light portable cable tool equipment is employed in this area as rotary rigs are not suitable because of a scarcity of water. Time of drilling a well is within two months.

La Paz, Bolivia. — Negotiations for the laying of a pipe line through Argentina territory for the transportation of petroleum to be produced in Bolivia east of the Andes, are being conducted by a commission representing the Bolivian government, with the government of Argentina. Decision to send the commission was announced in March by the Bolivian minister of finance.

Dunedin, New Zealand — Oil prospects in Taranaki are again considered promising. A company incorporated in September, 1929, with concessions over an area of 10,000 acres, started drilling operations in March, 1930. Contracts call for tests to 2000 feet, if necessary. While structural features are very promising, early tests indicate but slight promise of oil in commercial quantities. Conclusions reached from early tests indicate that the oil-bearing strata is located at a depth of about 900 feet. Further testing of the territory under lease, is going on.

Teheran, Persia. — According to figures recently released by the resident director of the Anglo-Persian Oil Company, Persian petroleum production for the calendar year 1929 has been estimated at 5,710,000 metric tons. Production for the fiscal year ending March 31, 1928, was given as 5,537,800 tons. Comparisons with previous years is impossible due to inaccuracies; and comparisons of productions for previous fiscal years is impossible due to revision of the company's fiscal year.

Madrid, Spain.—Spain's oil monopoly according to the report of the Cia Arrendataria del Monopoli de Petroleos, S. A., showed a 30 per cent gain in sales value during 1929 over 1928, the first year of business. The administration thinks that the monopoly is functioning normally. Contracts for supplies from the Gulf of Mexico and the Black Sea were filled regularly, and an important contract was signed with the monopoly, which will secure a part of the imports on terms more favorable than previously obtained.

The Campsa fleet of four tankers returned a net profit of 1,623,936 pesetas, or about 18 per cent profit on the basis of capital invested. During the year contracts were made for the construction of four additional tankers, one of 10,000 tons displacement, and the remaining three of 8000 tons.

In addition, plans for the construction of a large refinery at Barcelona, were completed and bids solicited. The monopoly continues operation of its refinery near Barcelona, where 46.5 per cent of the total volume of lubricating oils handled by the monopoly, were treated during the year.

Finally the monopoly sent a technical commission during the year to Central and South America to study

Axiom

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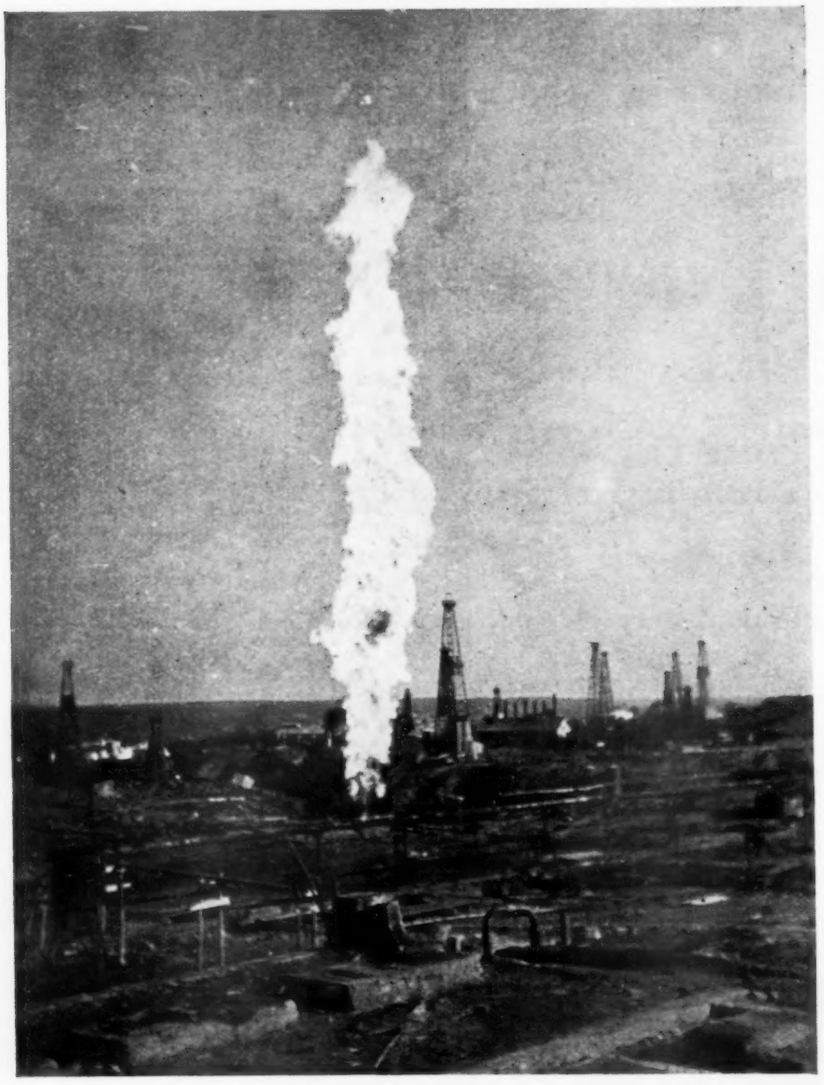

"More or Less Permanent" Moreni Fire

the possibility of purchasing oil fields. The commission's report has been made and is under advisement; but no action will be taken until certain legal difficulties have been ironed out. Some of the monopoly's needs for refining purposes have been met from coal tar refining, and officials feel certain this product offers additional possibilities during the ensuing year.

Bucharest, Roumania.—Two subjects are causing much discussion in Roumanian oil circles at present—one is over-production, the other the ever-present fire hazard as presented by the semi-permanent Moreni fire on the properties of the Romana Americana.

Concerning over-production, Roumania's petroleum production for the first four months of 1930 amounted to 1,870,000 tons, as compared with 1,444,000 tons for the same period in 1929, or an increase of nearly 30 per cent. Conservation measures have been suggested, but this is already being practiced by the large companies. Thus it is the smaller companies in Roumania which are responsible for increased production beyond the country's refining facilities.

Concerning the ever-present fire hazard, the fire which raged during the third week of May in the No. 31 well of Steau Romana at Scorteni, has again called attention to the dangers of oil-field exploitation. In this particular instance, after burning for several days, the ground around the mouth of the well collapsed, thus automatically putting out the fire. On the other hand, the Romana Americana well continues to defy all control efforts, including the cooperative efforts of the Roumanian government and American interests.

London, England. — The Second International Benzole Conference convened May 30 by the National Benzole Association, met at Grosvenor House hotel, Park Lane, under the chairmanship of the president, Sir David Milne Watson. Delegates from the leading countries of Europe were in attendance, and several important papers were read. Discussions featured marketing practices, and propaganda for the distribution of benzole produced in the respective countries.

Paris, France. — During the first quarter of 1930 a total of 96,408 tons of crude oil was imported into France, divided as follows: from Persia, 51,762 tons; and from Venezuela, 39,139 tons. This compares with only 3867 tons for the corresponding period last year. Superior quality petrol imported amounted to 4,570,023 hectolitres, and of ordinary quality, 1,114,361 hectolitres, as compared with 3,361,037 and 941,740 hectolitres respectively for the corresponding period in 1929.

During this period French refineries sent out 91,825 hectolitres of superior quality petrol and 24,117 hectolitres of ordinary quality petrol. Imports of other petroleum products were as follows:

	First Quarter 1930 Tons	First Quarter 1929 Tons
Lubricating oils	69,469	57,449
Fuel oil	85,267	101,466
Gas oil	41,105	37,922
Road oils	17,183	15,740
Benzol	2,197	1,986

Monterrey, Mexico. — New impetus was given to the petroleum interest in Nuevo Leon when Consolidated Oil Companies of Mexico, S. A., opened offices here recently and announced that in the future its Mexican activities would be concentrated at and directed from Monterrey. According to Philip Messenger, vice-president and general manager for the company, activity has been discontinued in Panuco in order to concentrate activity in Nuevo Leon where extensive holdings await development.

First cores to be put down will be drilled 25 kilometers from the San Juan river on a portion of the 6,000,000-acre territory controlled by the company. The first site is about 100 miles northeast of Monterrey in the direction of Matamoros. Company engineers are now engaged in dividing and clearing up individual owners' titles.

Holdings of Consolidated Oil Companies of Mexico, S. A., are in the northeastern part of the state, whereas the lands held by other major companies lie northwest, in the direction of Lampazos.

Tampico, Mexico.—Oil exports from Tampico in April were 1,902,208 barrels, a decrease of 182,572 barrels for the month over the previous month's total. Decreases were reported by Cia Mexicana de Petrole "El Aguila," S. A.; Mexican Gulf Oil Company; and The Texas Company of Mexico.

(Continued on page 78)

Louisiana--Arkansas Field Notes

Development in Concordia Parish Looms

SHREVEPORT, La.—A development in Concordia Parish, Louisiana, which may result in a drilling campaign across the central part of this state and into East Texas, and indications that the chalk rock horizon of the Zwolle field of Sabine Parish, is apparently productive for at least three miles south of present production in the east part of the field—were the two major events from a production standpoint in North Louisiana during the last week.

A. C. Glassell's Pittsfield Plantation 1, Section 41-8-10e, blew in, making an estimated 5,000,000 cubic feet of gas and 3000 barrels of salt water and then bridged over. Eight-inch casing is being re-cemented at 1370 feet, where it was originally set, and present total depth is 1450 feet. The test is on a 100,000-acre tract checkerboarded in that part of Louisiana, which roughly, is across the Mississippi River from Natchez, Mississippi.

The geological importance of the test rests on the fact that the gas is coming from the Jackson Cockfield formation, which corresponds to the Jackson Yegua found productive around Beeville, Texas. Further developments in Concordia Parish might start a belt of tests across Louisiana to prove out the theory that the formations are linked.

Concordia Parish is far outside any present production of oil or gas, the Urania field, in La Salle Parish, being over 100 miles northwest and the Richland gas field the same distance to the north. Pay in Urania found around 1500 feet is in the top of the Wilcox or the Cane River in the lower Claiborne.

Slightly over three miles south of present production in the Zwolle chalk rock horizon in the eastern part of the field, Pelican Natural Gas Company, in Sabine Lumber Company 2, Section 20-7-12, topped the Marlbrook marl at 2308 feet and set 6⅝-inch casing at 2677 feet in the chalk rock. After plug was drilled a gas blowout, which sent fragments over the top of the derrick, was encountered in the chalk at 2725 feet and later a good oil show was encountered at 2751 feet, However, the test is still drilling, being down to 2780 feet Monday, June 16.

This test is seven miles west and slightly south of a recent four-mile eastern extension of Zwolle.

Progress is being made in both of Zwolle's deep tests being drilled by Loring Oil Company. Peavy Wilson 1, Section 21-6-13, six miles southeast of the western part of the field, Monday, June 16, was drilling at 3450 feet after bailing dry at 3098 feet in the marl which was topped at 3010 feet. In the east field Bowman-Hicks 5, in Section 34-8-12, is down to 3950 feet.

Seven new locations were announced in Zwolle, six being offsets to recent producers. Stacy and associates are building derrick for Polly 1, Section 18-8-12, three miles north of production in the Zwolle townsite. W. D. Perritt has made offset location to a recent quarter-mile northwest extension with Elliott 1, Section 30-8-12. Three offsets were made to the recent flowing well of Olsan Brothers in Ferguson-Boone 1, NE SW Section 33-8-12, completed flowing 4000 barrels daily and later going dead. Two offsets were made to A. H. Tarver and Shreveport-El Dorado Pipe Line Company's Sabine State Bank 2, in the northwest corner of Section 26-8-12, which extended production half a mile northeast.

Three Locations at Spring Hill

Three more locations were announced by S. H. Riggs, Trustee, in the north edge of the Spring Hill-Sarepta district, all being on L. & A. land, where he has his first test under way. Arkansas Fuel Oil Company announced that rigging up is under way for Ashley 3, a second test for this company in the Lake Bisteneau salt dome area of Bienville Parish. The new test is in SE SW Section 15-16-10w.

H. I. Morgan and Shreveport-El Dorado Pipe Line Company are rigging up for a fourth test southwest of the Bellevue shallow field of Bossier Parish. The first test struck gas at 1836 feet in the upper Trinity, but all subsequent tests have been failures. The new test is Kendrick 1, NW SW Section 22-19-11. Two offset locations were made in the recently revived Mooringsport part of the old Pine Island field, three were made for the Richland gas field and one for the Panola County, Texas, borderline gas area.

A test a quarter of a mile south of production in the old south El Dorado oil field of Union County, Arkansas, is looming as a possible pumper in South El Dorado Oil Company's Traylor 1, Section 9-19-15, which was bailed at 2163 feet in the Nacatosh and showed considerable oil. Six-inch casing was set at 2162 feet. The well may make a pumper as there is little gas pressure evident.

O. W. Estes' Telford 1, Section 35-17-15, a wildcat east of the town of El Dorado, was abandoned as a salt water hole at total depth of 2906 feet. Four and a

Plan Test of Area 20 Miles North of Jackson

Jackson, Miss.—In an effort to test the possibilities of a region some 20 miles to the north of the present commercial gas well and the gas showings in two other tests in the intermediate vicinity of Jackson, Dr. S. T. Wisby and associates have made location for Raymond 1, NW SW Section 32-7n-2e, Madison County, Mississippi, where derrick is already up. Surface elevation is 375.9 feet.

There was one new location made in Hinds County, in the Jackson townsite drilling campaign, Love Petroleum Company now being at work rigging up for Hutton 1, NW NE Section 11-5-1e. Elevation is 266.8 feet.

Meanwhile Louisiana Gas & Fuel Company has spudded in its second Jackson test, Toole 1, Section 28-6-1e, and is drilling at 399 feet, after setting 15½-inch surface casing at 86 feet. Ohio Oil Company is rigging up for School Board 1, Section 16-5-1e, Hinds County. All sixteenth section land in Mississippi belongs to the public school system.

Across Pearl River, in Rankin County, to the east of Jackson, Gulf Refining Company is preparing to plug back to the 2500-foot chalk horizon, where an interesting gas show was encountered and a very slight show of heavy oil, after having attained a depth of 3607 feet and still being in igneous material. The 2500-2600-foot chalk horizon is where the present gas is being secured.

In the same county, Pearl River Oil & Gas Company in Littlefield 1, Section 12-5-1e, topped the Wilcox (Tertiary) at 1056 feet and is drilling sand rock at 1286 feet.

In Lauderdale County, Alabama, A. D. Morton's O'Neal Heirs has attained a depth of 1735 feet and still is in white lime. At present the test is shut down while a walking beam is being repaired.

Great Oil Arteries

Pump house and G-E power transformers and switching equipment, Sonora Station, Texas Pipe Line Company

G-E switching equipment, Sonora Station, Texas Pipe Line Company

Three G-E 350-hp. induction motors direct-connected to Worthington centrifugal pumps, San Marcos Station, Texas Pipe Line Company

Another view showing three 350-hp. induction motors direct connected to Worthington centrifugal pumps, San. Marcos Station, Texas Pipe Line Company

G-E 75-hp. variable speed, wound-rotor induction motor direct-connected to Worthington pump with G-E motorized sump pump and gauge board in background, San Marcos Station, Texas Pipe Line Company

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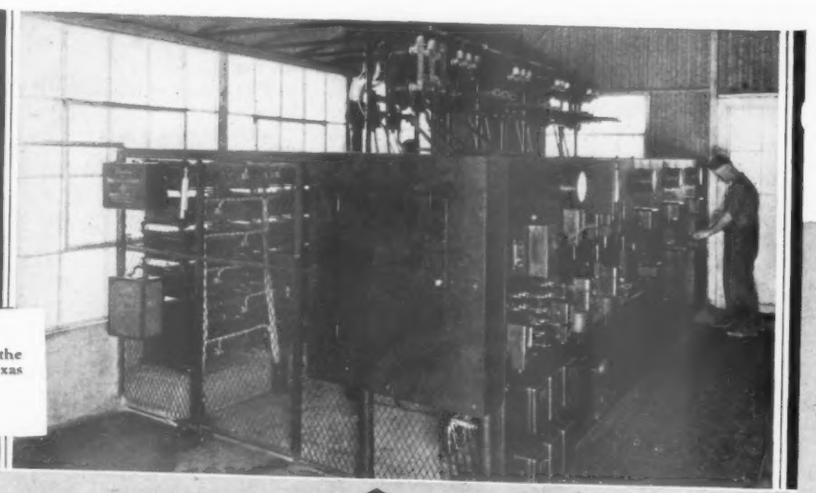
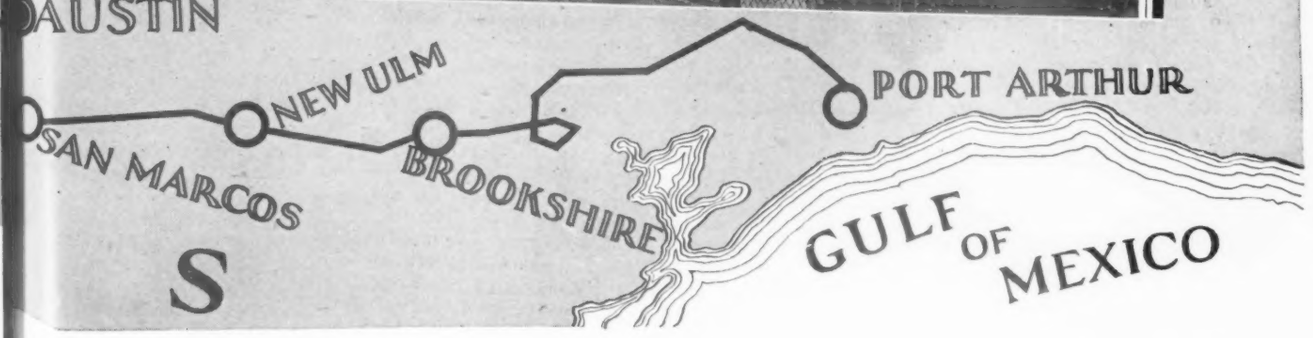


G-E switchboard equipment, part of the G-E equipped Brookshire Station, Texas Pipe Line Company



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half-inch casing had been set at 2882 feet with 24 feet of sand.

Root Refining Company has junked and abandoned Jerry 2, Section 21-17-14, between the Calion field and Champagnolle at total depth of 2934 feet. H. L. Hunt's Pratt 6, Section 7-18-15, is pumping pure salt water at total depth of 2214 feet.

A mile north of the town of Strong, Arkansas, Union County, H. L. Hunt tested 5,000,000 feet of gas and much salt water in a drill stem test from 3545 to 3552 feet and deepened the hole to 3556 feet, where a similar test from 3546-56 feet showed 3,000,000 feet of gas and 16 joints of salt water.

Three wildcat locations were announced in Arkansas and five workovers and perforations for the Union County, Arkansas, part of the Smackover field. J. K. Wadley, Trustee, is rigging up for Longino 1, NW NW Section 32-18-22, Columbia County, north of the Cartersville field of Bossier Parish, Louisiana. Lenz and associates have made location for Johnson 1, Section 24-15-26, Miller County, Southwest Arkansas, where a number of fruitless wildcats have been drilled. In Sebastian County, Northwest Arkansas, Ozark Natural Gas Company is building derrick for Weaver 1, SE NE Section 27-8-30.

Five producers with combined initial of 250 barrels were added during the week, as compared to 11 with a total initial of 4125 barrels for the week before. There were also seven gassers and eight failures.

Two salt water holes and one small gasser were completed in the wildcat Holly district of De Soto Parish, Louisiana. All were tests of Standard Oil Company of Louisiana. The three producers in the field are now practically surrounded by salt water holes, indicating the producing area is merely a pimple.

Many Innovations Accompany Oil Operations in Seminole Area

THE Seminole oil producing area in Oklahoma, because of its peculiar conditions, its great extent and its rapid rate of development, has provided numerous problems that have required radical departures from methods of operations usually employed in the development of new oil fields in the Mid-Continent, states the United States Bureau of Mines, Department of Commerce, in an engineering field report just issued in cooperation with the State of Oklahoma as Report of Investigations 2997. "Engineering Study of the Seminole Area."

Many of these problems are discussed in detail, and the report is augmented with 38 illustrations and 38 tables containing many data pertaining to the area which were collected and assembled by bureau engineers during a study extending through the present life of the nine fields in the area. This report on the Seminole area is one of the most comprehensive engineering field reports so far published by the bureau.

On July 1, 1929, two years and nine months from the date of discovery, more than 1800 wells were producing from nine separate and distinct pools having a combined proved area of 20,490 acres. Additional acreage in the Seminole area was being developed constantly.

Natural flow, usually an important production method during the flush stage of most oil fields, was of minor importance in the Seminole area because the amount of gas associated with the oil was unusually small. This deficiency of nature was met by human ingenuity in the general adoption of the air-gas lift whereby air or gas is piped to the bottom of a well, where it is released in the oil and causes the latter to flow upward to the surface. This method was responsible for the sustained high rate of oil production in Seminole. In the later stages of lift application when the daily average production of oil became low the intermittent injection of air or gas was general. A survey of well production records indicates that intermittent flow has increased the daily production of many wells in the Seminole area and that the rate of production decline in many other wells was arrested. Although efficient pumping might have given the same production, intermittent flow in the Seminole area postponed the difficulties and high costs attending the installation and operation of pumping oil at great depths from crooked holes.

Holes Were Crooked

The great distance that wells could deviate from the vertical was not fully appreciated until several instances arose where wells that were spaced 660 feet apart at the surface intersected each other at depths less than 3000 feet. Obviously, when a well deviates from the vertical a distance of at least 330 feet its actual depth must be considerably less than that indicated by a steel line measurement. When this condition of crooked holes was fully appreciated many seemingly impossible deformations of the producing structure could be explained readily. As a result of such conditions it became common practice in drilling operations to determine the angular deflections of wells by the "acid bottle method." In brief, this method consists in lowering to a certain point in the well a cylindrical glass bottle partly filled with hydroflouric acid. The angular deflection of the well at the depth to which the acid bottle was lowered could be determined by observing the angle of the line on the bottle etched by the acid. By calculating the true depth of 182 wells from the reported measured depths, it was found that the average vertical correction for the 182 wells was 111.6 feet. Hence, an average well that had been assumed previous to the acid bottle test to be 4400 feet deep might actually be less than 4300 feet deep. In one well the vertical correction was 799 feet.

Crooked holes lead not only to incorrect assumptions regarding the structural features of the various pools and the depths at which producing sands would be penetrated, especially in the early lift of the Seminole City pool, but also added to the cost of drilling and to difficulties in pumping wells after gas lift methods of producing became impractical. For these and many other reasons careful studies were made of drilling procedure in an effort to minimize the angular deflections of oil wells.

Human Element a Factor

The human element has much to do with the drilling of straight holes. However, mechanical aids have been important also. Among these are: carefully leveling the rotary table, centering the hook directly over the table, keeping the drill stem vertical by means of suitable guy lines during early drilling operations. Also the conductor pipe should be cemented in an absolutely vertical position, and the cement should fill at least one foot of the original depth of the cellar. Long drill collars are often used on the lower end of the string of drill pipe to stiffen it. The mud fluid circulated should weigh not less than 11 pounds per gallon. To promote straight hole drilling many drilling contractors instruct their drillers to allow not more than 10,000 pounds weight on the cutting tools, as excessive weight on the bit is believed by many to be one of the greatest causes of crooked holes. The use of weight indicators for indicating the weight on the cutting tools became general in Seminole drilling operations and has proved a valuable aid in solving the problem of drilling straight holes.

Other important subjects discussed in the report are studies related to: "bottom hole treating" wherein chemicals are introduced at the bottom of the well to aid the separation of oil and water; newly developed heavy drilling equipment, the use of differential drives whereby the weight on the cutting tool and the torque required to rotate the drill stem are balanced automatically so that when the torque increases the drill pipe rises until a proper balance is established, the greatly expanded use of electric equipment in all phases of oil field power requirements, and deep well pumping practice, including the use of dynamometers for properly balancing the pumping cycle of a well. The report concludes with a chapter on the analyses of crude oils from the Seminole area and a table giving the locations and well elevations by pools, of the wells drilled up to July 1, 1929.

The complete report, Bureau of Mines Report of Investigations 2997 "Engineering Study of the Seminole Area, Seminole and Pottawatomie Counties, Oklahoma," in cooperation with the State of Oklahoma, by R. R. Brandenthaler, W. S. Morris and C. R. Bopp may be obtained, only upon direct request, from the Petroleum Experiment Station, United States Bureau of Mines, Bartlesville, Oklahoma. There is no charge for this publication, the supply of which is limited.

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Oil Profits In 1929 Increased 16.2 Per Cent

By H. J. STRUTH
Staff Economist

DESPITE the fact that over-production of both crude and refined oils last year resulted in a slump in market prices, at the height of the season of peak demand, oil company earnings showed a material gain over 1928. Financial reports of 52 leading oil companies for the year 1929 reveal that net profits averaged 16.2 per cent higher than in the preceding year. Combined net profits of these companies for the year 1929 aggregated $739,583,394 against $636,457,127 in 1928.

Table 1 presents reported net profits of 52 oil companies for the year 1929, compared with 1928. It will be noted that profits of individual companies, in most instances, reveal material gains over the preceding year. The only exceptions to the trend toward increased profits during 1929 were those of Beacon Oil Company, Houston Oil Company, Louisiana Oil Refining Company, Mexican Petroleum Company, Pan American Petroleum & Transport Company, Pure Oil Company, Producers & Refiners Corporation, Shell Union Oil Corporation, Standard Oil Company of New York, Tidewater-Associated Oil Company and Vacuum Oil Company. The largest increases in profits reported were Humble Oil & Refining Company, Continental Oil Company, Standard Oil Company of New Jersey, Gulf Oil Corporation, Ohio Oil Company and Phillips Petroleum Company. In all, 23 companies reported gains in profits of $1,000,000 or more for the year, while 18 companies showed profits of more than $1,000,000 monthly.

The companies of the so-called Standard Oil group reported aggregate net profits of $482,623,427, or 65.2 per cent of the total. So-called independent oil companies of this list showed aggregate net profits of $256,959,967, or 34.8 per cent of the total. Table 2 shows net profits of the so-called Standard group for 1929.

Ten companies, constituting the largest of the integrated oil companies of the United States and Canada, reported combined net profits of $495,057,319, or 66.9 per cent of the total reported by the 52 companies listed in Table 1. Listed in the order of their rank, the largest companies and their 1929 profits are listed in Table 3.

A partial list of earnings reports for the first quarter of this year reveals decidedly lower net profits in comparison with the first quarter of last year. Obviously, this is due to unsatisfactory market conditions that have been brought about by excessive production. While complete details of results for the first quarter of this year are lacking at present, it is believed that quarterly reports for the 52 companies listed herein will prove extremely disappointing. The slump that accompanied the refined oil price structure last year continued to be reflected in the refined oil market during the first quarter of this year. Subsequent improvement in the gasoline market has, however, brightened the profit possibilities for the second and third quarters of this year. It is, nevertheless, apparent that continued over-production of gasoline has prevented a normal decline in inventories and has consequently retarded improvement in the wholesale and retail price structure.

Since the third quarter will undoubtedly prove to be a record-breaking period in the gasoline market, it is up to the industry to make a final effort to curtail refinery operations to a degree that will insure a justifiably higher scale of prices for gasoline and other petroleum products during the season of peak demand. Unless constructive effort is made in this direction within the next 30 days it will be difficult to maintain market prices at

TABLE 2
Net profits of Standard Oil Group, 1929

Atlantic Refining Company	$17,332,417
Humble Oil & Refining Company	32,535,080
Imperial Oil Company	26,350,309
Ohio Oil Company	12,347,649
Standard Oil Company of California	46,633,490
Standard Oil Company (Ind.)	78,499,754
Standard Oil Company (Kansas.)	1,512,912
Standard Oil Company of Kentucky	6,652,992
Standard Oil Company of New Jersey	120,912,000
Standard Oil Company of New York	38,750,849
Standard Oil Company of Ohio	4,202,384
Vacuum Oil Company	35,767,627
Continental Oil Company	9,028,660
Prairie Oil & Gas Company	14,331,634
Prairie Pipe Line Company	22,800,453
South Penn Oil Company	5,139,216
Pan American Petroleum & Transport Company	9,825,992
Total Standard Oil group	$482,623,427
Total so-called independents	256,959,967
Grand total	$739,583,394

TABLE 3
Largest Oil Companies, 1929 Profits

Standard Oil Company of New Jersey	$120,912,000
Standard Oil Company (Indiana)	78,499,754
Texas Corporation	48,318,072
Standard Oil Company of California	46,633,490
Gulf Oil Corporation	44,489,685
Standard Oil Company of New York	38,750,849
Vacuum Oil Company	35,767,627
Humble Oil & Refining Company	32,535,080
Imperial Oil Company	26,350,309
Prairie Pipe Line Company	22,800,453
Total 10 companies	$495,057,319
Total 42 other oil companies	244,526,075
Total 52 companies	$739,583,394

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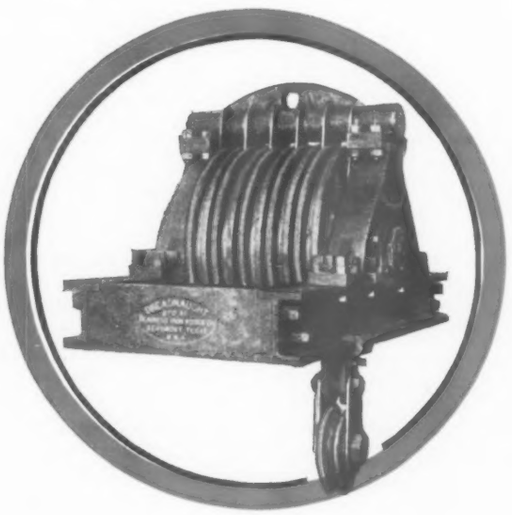

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present or anticipated levels. Whether the financial results for this year will equal or exceed those of last year is entirely up to the industry itself. At any rate, the bulk of this year's gasoline business, alone, lies ahead and it is logical to believe that proper control of supply would readily offset the poor results shown in the first quarter. With the large volume of business still to be met throughout the next four months, there is every reason to believe that the industry can make a worth-while showing again this year—but it will be impossible to exceed last year's financial results unless a greater and more serious effort is made to bring refinery operations in line with normal market requirements.

Net Profits of 52 Oil Companies Compared

	1929	1928
Amerada Corporation	$2,758,900	$2,214,109
American Republics Corporation	660,572	105,590
Atlantic Refining Company	17,332,417	16,848,807
Barnsdall Corporation	7,205,161	4,039,861
Beacon Oil Company	247,615	1,209,815
Continental Oil Company	a9,028,660	*4,987,564
General Asphalt Company	1,757,095	920,506
Gulf Oil Corporation	44,489,685	36,325,140
Houston Oil Company	1,731,469	1,812,517
Humble Oil & Refining Company	32,535,080	19,277,145
Imperial Oil Company	26,350,309	22,963,264
Independent Oil & Gas Company	5,882,179	5,092,858
Indian Refining Company	506,034	319,442
Lago Oil & Transport Corporation	2,816,144	2,066,502
Louisiana Oil Refining Corporation	1,508,171	1,535,317
Mexican Petroleum Company	6,051,518	8,293,338
Mexican Seaboard Oil Corporation	*28,850	*1,332,906
Mid-Continent Petroleum Corporation	7,683,378	3,897,056
Ohio Oil Company	12,347,649	5,054,955
Pan American Petroleum & Transport Company	9,825,992	10,071,576
Panhandle Producing & Refining Company	151,619	84,280
Phillips Petroleum Company	13,212,591	5,960,171
Pierce Petroleum Corporation	1,067,402	1,052,894
Pure Oil Company	b6,539,521	11,224,081
Prairie Oil & Gas Company	14,331,643	10,541,597
Prairie Pipe Line Company	22,800,453	19,786,612
Producers & Refiners Corporation	*1,136,627	934,484
Richfield Oil Company	8,554,494	7,818,076
Rio Grande Oil Company	5,659,943	1,640,600
Shaffer Oil & Refining Company	3,193,989	3,104,122
Sinclair Consolidated Oil Corporation	16,599,037	13,447,347
Shell Union Oil Corporation	17,573,249	20,395,021
Simms Petroleum Corporation	2,328,802	334,064
Skelly Oil Company	5,786,490	4,104,376
South Penn Oil Company	5,139,296	3,911,165
Standard Oil Company of California	46,633,490	46,083,817
Standard Oil Company (Indiana)	78,499,754	77,337,166
Standard Oil Company of Kansas	1,512,912	292,228
Standard Oil Company of Kentucky	6,652,992	4,745,604
Standard Oil Company of New Jersey	120,912,000	108,485,686
Standard Oil Company of New York	38,750,849	39,645,228
Standard Oil Company of Ohio	4,202,384	3,896,549
Sun Oil Company	8,242,491	5,008,027
Superior Oil Corporation	826,261	*662,152
Texas Corporation	48,318,072	45,073,879
Texas Pacific Coal & Oil Company	787,286	201,793
Tidewater-Associated Oil Company	14,000,688	14,132,542
Transcontinental Oil Company	4,723,990	1,506,802
Union Oil Company of California	15,019,635	11,101,935
Vacuum Oil Company	35,767,627	37,659,458
Warner-Quinlan Company	1,722,955	1,413,735
Wilcox Oil & Gas Company	c518,928	b468,612
Total	$739,583,394	636,457,127
Increase over 1928	103,126,267	

*Deficit (a) Marland Oil Company consolidated with Continental Oil Company June 1, 1929. (b) Year ending March 31, (c) Before federal taxes.

World Petroleum in Review

(Continued from page 70)

Strasburg, Alsace-Lorraine.—An important extension of the curriculum for the Strassburg College of Liquid Combustibles is now being put into operation. The college is attached to the University of Strassburg, and up to the present has been instructing its students in three branches connected with the petroleum industry, namely, geology, exploitation, and chemistry. A fourth section being added is to be known as utilization.

Paris, France.—Trial drillings to test fully strata in search for petroleum in Morocco, have now commenced. M. Batard, mining engineer and former manager of the mines at Aouli, has arranged for one test at Fez, a second at Petitjean and a third between Souk-el-Arba and Ouezzan. It is intended to take cores of the three tests to a depth of at least 2000 meters each.

According to a recent report of the mining commission, the only drilling which has shown promising results is at Ain-el-Hamra, in the Rharb district, from which 150 to 400 litres of crude per day has been recovered since 1923. This production, although subject to inundations at times, through defective plant, has been regularly maintained.

Moscow, U. S. S. R.—While other countries have been striving to curtail production of petroleum, Russia has been intent on increasing production. When the five-year plan was ratified in 1928-29, the figure for 1932-33, the last year under the plan presented by the Supreme Economic Council, was raised from 21,700,000 tons to 23,700,000 tons, and last August it was increased to 26,000,000 tons. Now it is said that the minimum production for 1932-33 is to be fixed at 41,000,000 tons.

According to the head of the industry, G. Lemov, while increased minimum will take care of increased export demands, the rapidly growing home demand must be met. Estimates by the Soviet press indicate demand in 1932-33 as follows: tractors, 3,200,000 tons of kerosene, as compared with 140,000 tons in 1927-28; automobiles, 1,800,000 tons of petrol as against 60,000 tons in 1927-28; and motor vehicles will increase from 22,700 to 500,000, each of which has a yearly demand of 3½ tons of petrol.

New York.—Colon Oil Corporation's subsidiary in Venezuela reports well T-61 brought in producing 1,175 barrels per day through 5/8-inch flow-plug, with casing pressure of 630 pounds, and tubing pressure of 250 pounds.

Admixtures in Rotary Mud

(*Continued from page 34*)

ticity. In color, clays vary from white through yellow, brown and red to black, depending on the impurities present. Yellow and red clays usually owe their color to iron compounds; brown and black usually to organic or carbonaceous material. Most clays contain quartz sand and sometimes mica.

A survey of many natural clays revealed very few that are really desirable in their natural form, though pulverized for rotary drilling fluid bodies. However, inexpensive clays have been found that, when in proper combination, give evidence of making generous approach to the ideal. Experimentation is now being carried on.

Quite often a drilling well does not begin to make natural mud until considerable hole is made. In a certain gas field in the Mid-Continent, the first 700 feet of formations are sands. It takes several days to "soak" the pits with water and unless mud is hauled or piped, drilling proceeds with considerable difficulty because the hole consumes much water. The difficulty with the mud hauled or piped from pits at completed wells in this field, is that the mud is very high in sand content. Drilling progress under such conditions, would benefit considerably from the availability of a processed mud body, the price of which being low and the advantages high, making hauling or piping poor mud uninteresting.

Until the time such a processed mud body appears on the market, there are some good natural clays available. One of them is a reddish cly found in West Texas. This clay is high in collodial quality, has proper weight for normal pressures, is low in abrasive content, running between two and five per cent in a few places and considerably higher in others. Its viscosity is such that if thickened considerably to make a heavy mud, it would not flow easily or drop cuttings readily. When it is desired to increase the weight of this mud an admixture could be added to increase the weight without increasing the viscosity, as described later. In some places this clay has a shallow overburden and is lowest in sand content when taken from a level part of the bed. On the slopes the sand content increases.

A clay of this kind breaks down easily in water when ground to 64 mesh or finer and is rapidly mixed by means of a jet mixer. When in coarse particles steaming will accelerate mixing.

The following is a list and description of some clays and other minerals that are being tried out in various forms under various trade names:

Bauxite

A mineral which is an important ore of the metal aluminum; about 75 per cent of the production in the United States is for metallic aluminum. The largest producers are: Arkansas, Georgia and Alabama. Bauxite is a non-crystalline, earthy mineral, massive or in grains. Its color is white, gray, yellow or red. It derives its name from Baux, France. American bauxite has usually a round, pebble-like structure, and the commercial grades should have at least 52 per cent of silica and iron together. So called bauxitic clay is a clay found in close contact with a bauxite stratum.

Diatomaceous earth, or diatomite, is the name of a fine silica made up of the siliceous skeleton of tiny aquatic plants called diatoms. Most of the miscropic skeletons are hollow so that the material is very light in weight. It is amorphous, having no crystal structure. It has been used as a concrete admix.

Kaolin is a very pure form of aluminum silicate clay with no iron. It is a decomposition product of granite and feldspar, and its usual impurities are quartz sand, feldspar and mica, which can be washed out with water. Kaolin is usually white. It is insoluble in water. Kaolin usually occurs in clay-like masses, with a specific gravity of 2.6 to 2.63, and hardness of 2 to 2.5 as measured by the Moh scale.

Shale is a rock formed by mud or clay consolidated under pressure. It is fine-grained and has a laminated structure, and is largely composed of silica and alumina with various impurities, often colored by oxides of iron. Unlike sandstones, shales have little porosity. Slate is another form of shale.

Silica is a mineral which is the most common of all materials, and in the combined and uncombined states is estimated to form 60 per cent of the earth's crust. Many sands, clays and rocks are largely composed of silica. When pure, silica is colorless to white. It is either crystalized or amorphous. Crystallized silica in the form of quartz has a hardness of seven on the Moh scale, and a specific gravity of 2.65.

Talc is a soft, friable mineral, oily and yielding to the touch. It is a hydrated magnesium silicate. The color is white, gray, green, brown or red. Talc has a hardness of one, and a specific gravity of 2.8. It has a pearly to greasy luster. The mineral occures in the Appalachian region from Vermont to Georgia. Talc does not mix readily with water.

Tripoli is the name of a whitish, finely granular, porous, siliceous rock probably derived from the weathering or alteration of chert or flint or the residue from the decay of siliceous limestones from which the calcium carbonate has been leached out. In some deposits Tripoli is soft enough to be crushed in the hand. It is sometimes called soft silica. It is not amorphous, as often considered, having a microcrystalline structure. It mixes readily with water, but although ground fine, and if untreated, it lacks sufficient collodial quality when mixed with water to make a drilling fluid. In some of the above descriptions, mention was made of hardness of some of the minerals. This hardness is according to the Moh hardness scale for abrasives, measurements being taken by scratch comparison, talc being taken as one, and the diamond as 10 on the scale.

Some Minerals on the Moh Scale of Hardness

Mineral	Hardness No.	Mineral	Hardness No.
Talc	1	Crystallized	7
Kaolin ...	2 to 2.5	Silica	
Barite ..	3. to 3.5	Topaz	8
Fluorite	4	Corundum	9
Hematite	5.5 to 6.5	Diamond	10

Collodial Admixtures and Reagents

The natural mud found in one particular high pressure area has insufficient weight, gas cuts easily and settles too quickly. At one well in that area, after drilling to 5000 feet and nearing production the rock bit became stuck in a limestone but circulation was free. Circulation was maintained for several days while attempts were made to free the bit but the pumps went down for several hours. While they were down, the mud settled sufficiently to prevent the pumps from getting circulation when ready to start. Thus, after spending $150,000 the job was jeopardized by deficiency in collodial quality of the mud which easily could have been prevented by maintenance of proper collodial quality by using an inexpensive collodial admixture. Fortunately high pressure pumps were soon available and broke circulation.

There is plenty of reason for preventive treatment in such an area.

There are two ways of treating a mud body to increase its collodial quality; first, by adding an admixture that relies on combining with the water content of the mud fluid and second, by adding a chemical reagent that relies on chemical reaction with the basic

minerals in the solid particles in the fluid.

As a colloidal admixture relying on the water content, a finely powdered high quality bentonite is being used successfully. Bentonite is a general name for one class of material resulting from the devitrification and partial decomposition of glassy volcanic ash. Deposits are found in many parts of the United States and Canada, but vary considerably in quality. Bentonite from Wyoming has been found to be of suitable quality for use as a drilling fluid admixture. Its specific gravity is 2.4 and the Wyoming variety is white in color. It is composed of inert mineral ingredients and is capable of taking up several thousand per cent of water. It is pulverized very fine and treated for drilling fluid usage so that hydrating action takes place fairly quick.

When it takes up water, the particles swell to many times their original size and the mass becomes a gel. It is this gelling property that makes it useful as an admixture to add collodial or suspending qualities to rotary mud.

As there is a tendency for groups of the particles to stick together and form bunches when mixing with water or adding to a drilling fluid, it is best mixed in a jet mixer.

The amount of bentonite to add to a mud that is deficient in collodial quality is approximately an amount equal to .02 per cent of the total volume of the mud to be treated for every one per cent of settling in 24 hours.* That could be used as a starting basis and additional bentonite added if necessary. Field tests can be made by using a four ounce bottle, or 100 C. C. graduate and measuring the settling in 24 hours.

Chemical reagents rely on chemical reaction with basic contents in natural mud to increase collodial quality. They act to cause gelatious precipitates which surround the particles of clay and cause cohesion. It has been found, however, that such treatment works better on the natural mud in some areas than in other areas, and a trial should be made with a small sample before using. Treated sodium aluminate is a base for a chemical reagent now on the market. It is used up to one part reagent to 600 parts of drilling mud, by volume.

*H. F. Beardmore "Field Control of Rotary Mud," "The Cementor," July 1929.

In making any tests on collodial quality, salt water should be added to the test specimen after the collodial condition has been stabilized. Theoretically, clays are deflocculated by the addition of alkalies; and will tend to flocculate by the addition of acids. The use of an alkali in that sense, would act to aerate gas cut mud.

Weighting Admixtures

When a natural mud drilling fluid is thickened to get more weight simply by cutting down the percentage of water, the result is to increase the viscosity and percentage of solids in the fluids. With this procedure, the maximum additional weight is very limited and the tendency is to get a thicker fluid that might present difficulties in circulating and will not release cuttings and sand content. Also, it will be more liable to become gas cut. Very often a thick mud looks like a heavy mud. There have been cases of muds so thick that they would hardly run out to the pit, but weighed very little more than water. If the natural mud is favorable and the desired increase in weight is within practical limits, it is possible to treat the solids in the fluid with an alkali to reduce the cohesion of particles and reduce the viscosity.

However, a more simple and more widely used method is to add a powdered weighting admixture of high specific gravity that will increase the weight of the fluid without increasing the viscosity.

Such a material should be finely ground and should have sufficient collodial quality of its own not to drag on the collodial quality of the mud body.

Iron oxide, hematite and barite have been the materials mostly used as weighting admixtures.

Iron oxide is a very high form of oxidation of iron and has a specific gravity of 4.9. When used as a weighting admixture it should be ground to about 300 mesh and should be treated to give it independent colloidal quality. Also, it should be free from abrasives.

Hematite is an iron ore containing about 70 per cent of iron. The color is usually various shades of reddish brown. Its specific gravity is 4.8 to 5.3 and hardness is 5.5 to 6.5.

Barite, a barium sulphate, has been used considerably more often than iron oxide and hematite and its general use as an admixture has become well known. However, the wide variation in quality of barite in different deposits is worth noting. The large deposits in the southwest are located in Georgia, Missouri and New Mexico and it occurs in crystals or massive. It may be colorless, white or light shades of blue, red and yellow and transparent to opaque. Its specific gravity is 4.5 and hardness is three to 3.5.

The most suitable barite for a mud admixture is of an unctious nature found in Missouri. When water ground the abrasive content is more readily released than when dry ground, it also must be treated to give it independent colloidal quality. Its lower abrasiveness and unctious nature are chiefly the reasons for its more widespread use than the other weighting materials.

Weighing mud is very important. This is being done at present by taking a sample of the mud in a gallon bucket and hanging it on a pair of scales. A forward step has been recently made and a device is now being tried out which is designed to give a continuous reading and record of the mud weight. The device consists of a hopper of known capacity, a discharge in the bottom and an overflow. It is connected to the ditch by a sampler line. The hopper is suspended to a dynamometer which operates an indicating gauge and a recording gauge.

Weights, Specific Gravities and Pressures of Various Fluids

Fluid	Weight p/ Gal. (lbs.)	Specific Gravity	Weight p/ Cu. Ft. (lb.)	Weight p/ Co. In. (lb.)	Press. in Lbs. p/ Sq. In. exerted by a col. 1 Ft. high
Water, distilled	8.33	1.00	62.35	.036	.434
Water, sea	8.55	1.03	63.95	.037	.444
Petroleum (approx. average)	7.33	.88	55.00	.032	.384
Drilling Mud	9.00	1.08	67.32	.039	.467
Drilling Mud	10.00	1.20	74.80	.043	.520
Drilling Mud	11.00	1.32	82.28	.047	.571
Drilling Mud	12.00	1.44	89.76	.052	.623
Drilling Mud	13.00	1.56	97.24	.056	.675
Drilling Mud	14.00	1.68	104.72	.061	.727
Drilling Mud	15.00	1.80	112.20	.065	.779

Added Funds Provided For Recovery of Oil Leases

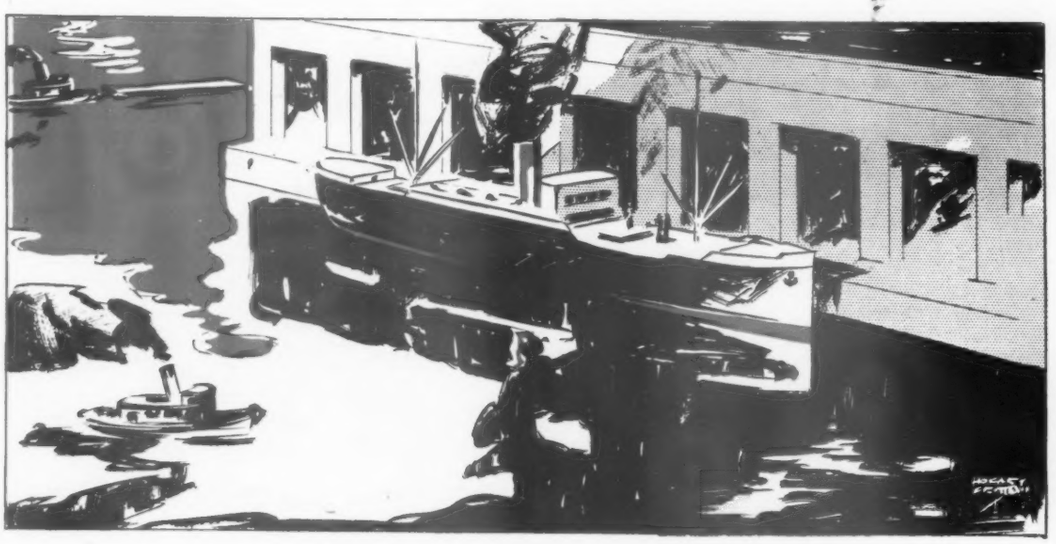
Washington, D. C.—Reappropriation of funds totaling approximately $140,000 for continuance of the work in connection with the protection of the interests of the United States in leases on oil lands in former naval reserves is provided in the second deficiency appropriation bill, reported to the House of Representatives last week.

Considerable work, the report of the committee stated, remains to be done in connection with litigation still pending and payment must be made to counsel for services rendered. A total of $400,000 has been appropriated for this purpose, through the use of which in prosecuting cases the government has recovered many millions. The amount covered in the bill is the balance now remaining of the original appropriation, which is to be made available until expended.

Empire to Build Plant

Tulsa.—Empire Oil & Refining Company has begun construction of a natural gasoline plant in the newly developed Wanette-Asher pool, Township 6, Range 3, in the Greater Seminole area of Oklahoma. Practically all of the equipment is available in the Seminole area making possible the construction of the plant in record time. The initial capacity is reported at 10,000,000 cubic feet, with provision being made for additional units as the field is developed.

[THE LAST OF A SERIES OF EIGHT AD-ITORIALS ON OIL]



HOUSTON - *The Center of an Oil Empire*

WITHIN a radius of 600 miles of Houston is found one-half of the oil production of the world . . . an area regarded by geologists as the source of the greatest future supplies of petroleum. In this area are oil fields in Texas, Mexico, Oklahoma, Louisiana, and Arkansas.

In 1929 Texas produced 298,848,150 barrels of oil or 30 per cent of the entire nation's production. The Humble oil field, 18 miles from Houston has produced around 100,000,000 barrels of oil and the Goose Creek field, 25 miles from Houston has produced around 60,000,000 barrels. Fifty-six new salt domes have been discovered in the last few years in the Gulf Coast territory by geophysical methods.

Converging at the Houston refining area are pipe lines from all parts of the producing territory of the Middle United States . . . . one reaching to Wyoming. The oil from Mexico comes to the refineries on the Houston Ship Channel in tankers direct to their private docks.

Facilities that have made Port Houston the fourth in the nation in point of export, are attracting new refineries.

To serve this vast territory, 40 active oil companies have their headquarters in Houston. Three of these are the world's largest producers and transporters of oil. Houston has a dominant place in the oil commerce of the world.

The FIRST NATIONAL BANK
1ST IN HOUSTON
HOUSTON · · · TEXAS

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

KANSAS

Company, Well and Location	Initial Production Bbls.	Depth
BUTLER COUNTY—		
Empire O&R, Brandenberger 8 "A," ne se ne, 22-27-5e	275	2769
Empire O&R, Koogler 96, se sw sw ne, 20-26-5e	150	2576
CHASE COUNTY—		
Chase County Pipe Line Co., Koegeboehm 1, c se se, 29-19-6e	*	Lcn.
COFFEY COUNTY—		
Linn O&G, Levering 1, nw ne se, 12-23-14e	*	1977
ELLIS COUNTY—		
Phillips Pet. Co., Clinton 1, se c nw, 5-12-17w	195	3654
Mid-West Exploration Co., Austin 13, se ne ne, 36-12-16w	40	3125
GREENWOOD COUNTY—		
Simmons et al, Frank Houser 1, sw c, 21-22-12e	*	1946
Bisagno et al, Ralston 4, cnl se, 9-25-13e	*	1620
McPHERSON COUNTY—		
Barnsdall, Krehbiel 4, ne nw se, 4-21-3w	745	3411
Gypsy, Stucky 1, se sw se, 33-20-3w	1505	3295
RICE COUNTY—		
G. E. Burgher, Fair 1, ne se se, 14-21-10w	*	4001
STAFFORD COUNTY—		
Gibson et al, Mueler 1, c sw, 11-23-14w	*	4500
STEVENS COUNTY—		
Argus Gas Co., Crawford 1, c se, 19-32-37w	¶13	2835
Pride 1, c sw, 25-33-39w	¶5½	2890
Trees Oil Co., Lowery 1, c se, 4-35-38w	¶7¼	2782

OKLAHOMA

Company, Well and Location	Initial Production Bbls.	Depth
CADDO COUNTY—		
Mid-Kansas O&G, Wade 8, nw c ne sw, 2-5n-9w	70	3336
Bullock et al, Royce 2, sw c se sw ne, 12-5-9w	150	3066
English Drilling Co., Huron 1, c nw se, 26-6-10w	*	3511
CARTER COUNTY—		
Venmex Oil Co., Keener 1, nw sw se, 29-1s-3w	75	4099
Magnolia Pet. Co., Spigner 1, nw se nw, 24-1s-3w	390	2551
COTTON COUNTY—		
Shasta Oil Co., Chamber 4, sw c nw sw, 1-2s-10w	25	2212
Cobb 6, cel se ne, 2-2s-10w	75	2165
Burneaugh 1, ne c se se, 2-2s-10w	25	2118
Perkins & Cullum, Chambers 3, nw c sw sw, 1-2s-10w	*	2217
CREEK COUNTY—		
Phillips Pet. Co., et al, Carter 1, nw c se 20-19-9e	110	2227
KIOWA COUNTY—		
W. C. Adams, Fisher 1, ne c sw 34-7-17w	*	1087
LINCOLN COUNTY—		
Magnolia Pet. Co., Decker 2, sw c se 8-14-4e	2768	4675
School Land 1, sw se se, 16-14-5e	*	4770
MARSHALL COUNTY—		
F. W. Merrick, Null 19, nw c ne nw nw, 24-5s-5e	50	670
MUSKOGEE COUNTY—		
Mack Drilling Co., Richards 3, csl nw ne 33-16-15e	10	1390
Bryan Pet. Co., Barnett 10, csl se ne, 8-15-15e	7	1880
J. M. Foltz, Spaulding 3, se ne sw, 9-15-18e	100	1002
Western Development & Electric Co., Fields 3, nw c ne ne sw, 9-15-18e	100	980
R. F. Ray et al, Foreman 1, sw c se, 14-13-18e	¶1	589
Wm. Lapierre, Mickens 1, sw nw nw 11-15-18e	*	990
Midwestern Oil & Gas Co., Mulkey 1, c sw sw, 30-12-19e	*	733

Tabulation and Comparison on page 44

Company, Well and Location	Initial Production Bbls.	Depth
OKLAHOMA COUNTY—		
Hall & Briscoe, Holmes 1, ne sw se, 10-11-3w	19,486	6419
I. T. I. O., Precure 1, se c, 11-11-3w	¶100-3405	6523
Cromwell-Franklin, Trosper Park 19, sw c 12-11-3w	31,002	6397
I. T. I. O., Trosper 11, sw nw sw 13-11-3w	4285	6433
Mary Unsell 1, ne se ne 23-11-3w	2050	6523
Coline Oil Co., Warren 9, se sw sw 18-11-2w	5544	6474
I. T. I. O., Emmerson 7 se sw sw, 30-11-2w	1687	6514
Emmerson 9, nw sw sw, 30-11-2w	3275	6565
I. T. I. O., Jones 7, ne nw nw, 31-11-2w	2460	6626
Skelly Oil Co., Hoopes 7, se ne ne 31-11-2w	3995	6456
OKMULGEE COUNTY—		
Kirkland & Son, Brown 3, ne c sw sw 9-15-13e	5	2511
Hood 1a, csl nw sw 32-15-13e	*	2125
OSAGE COUNTY—		
Winona Oil Co., 14, nw c ne ne, 20-29-9e	40	1590
Vacuum Oil Co., 5, sw se sw 28-26-6e	100	2939
I. T. I. O., 428, ne se se 1-23-8e	¶2½	511
Peters Pet. Co. & P&R, 4, sw se ne 10-26-8e	*	2147
Clint Moore Estate et al, 1, se c nw, 10-21-9e	*	2725
PAWNEE COUNTY—		
Geraldine Oil Co., Edminston 7, se c nw sw, 30-21-9e	30	1110
Seminole Oil Co., Edminston 1, nw c sw sw 30-21-9e	5	1108
Campbell Drilling Co., Miller 1, nw c ne se 20-20-10e	¶2	1940
PITTSBURG COUNTY—		
Central States Light & Power Co., Bascom 1, se sw se 10-7-18e	¶9	1895
PONTOTOC COUNTY—		
Benedum & Trees, Coker 3, se nw nw 31-5-5e	100	2660
Denver Prod. & Ref. Co., Stafford 2, sw c nw 31-5-5e	100	2661
Brydia Oil Co., Burke 1, se c 32-5-5e	40	2668
SEMINOLE COUNTY—		
C. B. Shaffer, Yoakum 10, sw c 9-5-8e	2	812
Blackwell O&G, Fleet 4, ne sw nw 13-5-7e	405	4226
Gypsy, Peters 6, c se ne, 23-5-7e	¶15	2677
Sinclair, Jones 2, se sw se, 15-9-5e	1175	4259
Amerada et al, Gross 3, se sw nw 24-9-5e	160	4243
Magnolia, Moore 4, sw ne se, 24-9-5e	780	4288
Hilton, Phillips et al, Burgess 2, nw c ne, 29-6-6e	4020	2861
Signal Oil Co., Bond 6, ne sw ne, 13-6-7e	*	3017
STEPHENS COUNTY—		
Pearce & Brown, Wilkinson 7, se c sw sw se, 27-1s-8w	45	1959
Magnolia, Christy 2, se c nw nw 15-2s-6w	85	2881
Shasta Oil Co., Patterson 14, cel sw nw 1-2s-102	75	2189
W. H. Smith, Randle 1, se ne nw, 15-2s-6w	*	3311
TULSA COUNTY—		
H. C. Dean et al, Grayson 1, sw c se sw 20-19-14e	*	1390
WAGONER COUNTY—		
North et al, Kernal 2, ne se se 31-18-17e	¶1	997

EASTERN STATES

PENNSYLVANIA

Company, Well and Location	Initial Production Bbls.	Depth
BRADFORD FIELD—		
South Penn Oil Co., Bingham 390, tr. 1	2	....
Bingham 533, tr. 120	3	....
Bingham 533, tr. 121	5	....
Bingham 395, tr. 1	3	....
Bingham 400, tr. 2	4	....
Bingham 554, tr 21	4	....
Farm 4185, tr. 2	3	....
Farm 4189, tr. 1	4	....
Farm 4294, tr. 1	4	....
Moody 280	3	....
Moody 281	3	....
Kinzue 206	15	....
Kinzue 207	12	....
Bingham-Satterfield 168	3	....
Jones 280	4	....
Burdick 82	5	....
Rounds 23	5	....
Forest Petroleum Corp., Fee, (12 wells)	22	....
Niagara Oil Corp. Fee, (59 wells)	118	....
N. V. V. Franchot, Rounds 28	10	....
Rounds 29	12	....
S. H. Elder, Elder 61	6	....
Daly Oil Co., Bingham 412, tr. 14	12	....
Healey Pet. Corp. (3 wells)	16	....
T. P. Thompson, Jr., Borden 22	5	....
Bradford Prod. Co. (1 well)	2	....
W. & W. Parmenter, Fee 1	5	....
J. W. Kaufman, Rounds 22	2	....
Rounds 23	3	....
Wright & Co., Wright 5	5	....
Penn Pet. Co., Duke 8	4	....
L. G. Dana, Fee 13	2	....
Fee 14	2	....
GREENE COUNTY—		
Manufacturers Light & Heat Co., Phillips 3450	¶1¼	....
H. D. Freeland & Co., Meighan 1	¶1	....
BUTLER COUNTY—		
H. D. Edenburn, Barkley 2	*	....
T. M. McGinnis, McGinnis 11	3	....
Willis M. Ruby, Snyder 19	*	....
CENTER-MIDDLE FIELD—		
Levi Epstine, Brown 1	22	....
South Penn Oil Co., Wardwell 1	2	....
VENANGO-CLARION COUNTIES—		
F. C. Deemer, Meherten 25	2	....
Meherten 26	2	....
Berlin 3	2	....
S. Y. Ramage, Simcox 70	2	....
Fryburg Motor Co., Bush 10	¶¼	....
Bush 11	¶¼	....
South Penn Oil Co., Golden 8	2	....
O. H. Culbertson, Jerusalem 11	3	....

WEST VIRGINIA

Company, Well and Location	Initial Production Bbls.	Depth
RITCHIE COUNTY—		
Rexroad & Hendershot, Jackson 3	7	....
McCall Drilling Co., Maulsby 1	¶¼	....
Mid-Penn Oil Co., Layfield 13	2	....
G. W. James & Co., Wilson 2	2	....
Ira Williams & Co., Glass 1	¶¼	....
C. B. Smith, Bradley 2	¶¼	....
CALHOUN COUNTY—		
Hope Natural Gas Co., Wilson 7454	*	....
Hosey 7449	*	....
Gerwig Oil & Gas Co., Korby 1	*	....
F. F. McIntosh, Hamilton-Hunt 1	¶1¼	....
DODDRIDGE COUNTY—		
Little Five Oil & Gas Co., Riffee 2	2	....
UPSHUR COUNTY—		
Union Gas Corp., Simons 1	¶1	4242
MARSHALL COUNTY—		
West Virginia Natural Gas Co., Shanks 656	¶¾	....
PLEASANTS COUNTY—		
Dinsmore & Co., Staunton 13	*	....
WOOD COUNTY—		
Heck Oil Co., Smith Hrs. 1	*	....

More Bitumen in Barrett Specification PIPE LINE ENAMEL

Revolving pipe method of applying Barrett Specification Pipe Line Enamel.

Barrett Specification Pipe Line Enamel—one of the Anti-Corrosion Products being applied by sling to an 8-inch oil line.

For Pipe of large diameter The Barrett Company will furnish equipment required to revolve pipe and spread coatings.

HERE'S an important point to bear in mind when choosing a protective coating for any pipe line. The quantity and quality of coal-tar bitumen in the coating determines its waterproofing efficiency.

Barrett Pipe Line Enamel for pipe line protection not only makes use of the finest grade of coal-tar bitumen (pitch), but the maximum amount possible is used per finished ton. By applying the standard tests approved by the American Society for Testing Materials, this fact can be established.

The flake-type *reenforcement* used in Barrett Pipe Line Enamel, as distinguished from ordinary *fillers*, reduces by at least one-third the usual amount needed. This permits the use of a larger percentage of the most reliable waterproofing agent known—coal-tar pitch.

This flake-type *reenforcement* has still other important advantages; it places the point of adequate flow at lower temperatures, reduces fumes to a minimum and saves fuel in application. The flake particles bonded with the bitumen, laminate and form a structure lending tensile strength and toughness. Finally, this *reenforcement* is a material admitted to be the best electric insulator known—and is likewise non-porous, non-absorbent, heat-resisting and chemically inert.

An additional assurance that Barrett Anti-Corrosion Products and Specifications offer dependable service to pipe line owners and operators is found in the reputation of other Barrett products—Barrett Specification Roofs, Tarvia and Barrett Underground Waterproofings for tunnels, dams, subways, etc.

Remember, too, that Barrett Service, Field Inspection and Quantity Surveys are supplied—and are backed by 76 years of waterproofing experience. Bulletins on Barrett Specification Anti-Corrosion Products can be had for the asking.

The Barrett Company

40 Rector St., New York

NEW YORK

Company, Well and Location	Initial Production Bbls.	Depth
ALLEGANY COUNTY—		
Ryder-Richmond Oil Co., Fee (4 wells)	12	....
Forest Oil Corp. Fee, (3 wells)	6	....
A. C. A. Oil Corp., Fee 7	5	....
Fee 8	4	....
Hazlewood Oil Co., Brown & Co. 1	3	....
Sepany Oil Co., Stewart 5	7	....
Stewart 6	12	....
F. J. McDevitt, Fee 18	3	....
N. V. V. Franchot, Meridan 38	7	....
Mary Lippert, Lippert 33	3	....
Polley Bros., O'Brien 1	*	....
J. A. Bucher, Bucher 17	3	....

KENTUCKY

OHIO COUNTY—		
Ellis & Thomas, Simpson 2	*	....
Talley 3	25	....
Bartlett 1	60	....
Louisville Gas & Electric Co., Miller 8	75	....
Rex-Pyramid Oil Co., Hoover 18	40	....
Hoover 19	40	....
Hoover 20	75	....
Hoover 21	40	....
Chapman 2	*	....
C. C. C. Oil & Gas Co., Shley 2	*	....
Smith 2	20	....
L. C. Young & Co., Stinnett 1	50	....
Stinnett 2	*	....
Martin 3	80	....
Martin 5	80	....
Leeper Oil Co., Greer 3	50	....
Lisle, Maple & Co., Roberts 2	6	....
E. G. Purtle & Co., Roach 8	*	....
Hupp, Duff & Co., Stewart 13 & 15	*	....
Stewart 14	20	....
C. M. Root, Steele 10	*	....
Steele 11	85	....
Vickers, White & Co., Crow 1	75	....
H. L. Ogle & Co., Royal 26	100	....
Royal 25	30	....
Miller & Damron, Moseley 1	*	....
Cumberland Pet. Co., Hamilton 6	80	....
HENDERSON COUNTY—		
Evansville Syndicate, Niagara Church Lot 1	5	....
Esslinger & Co., Akins 1	*	....
H. E. Wilson & Co., Powell 1	¶½	....
BELL COUNTY—		
Unknown Parties, Red Bird, tract 1	¶2	....
LEE-OWSLEY COUNTY—		
Petroleum Exploration Co., Trabue Hrs. 6	25	....
First National Bank of Jackson, Darch & Short Hrs. 4	5	....
C. G. Mays, Cole 6	2	....
LAWRENCE-JOHNSON COUNTIES—		
Swiss Oil Corp., Holbrook 53	25	....
Holbrook 55	4	....
Holbrook 61	3	....
Lyons 37	5	....
JOHNSON-MAGOFFIN COUNTIES—		
Peoples Pittsburg Trust, Demsater 2	3	....
Magoffin Oil Corp., Williams Hrs. 5	*	....
CLAY COUNTY—		
Petroleum Exploration Co., Ferguson 1	*	....
Begley Coal 1	¶¼	....
JACKSON COUNTY—		
Petroleum Exploration Co., Wolfork Coal 5	¶¼	....
DAVIESS COUNTY—		
Hupp, Duff & Co., Hayden 1	50	....
Petroleum Exploration Co., Graham 1	5	....

SOUTHEASTERN OHIO

WASHINGTON COUNTY—		
McVey Bros., Myers 7	10	1644
Cole Bros., Thomas 1	¶¼	1455
J. T. Hall & Co., Feltner 2	*	....
MONROE COUNTY—		
Staudt & Co., Huff 27	5	....
Keller & Co., McConnell 1	¶¼	1618
MORGAN COUNTY—		
Burns & Co., McKinnis 8	¶¼	897
Ohio Fuel Gas Co., Embree 3	¶¼	1536
NOBLE COUNTY—		
Metcalf & Co., Pabst 3	¶½	980

CENTRAL OHIO

Company, Well and Location	Initial Bbls.	Depth
MUSKINGUM COUNTY—		
Atha Drilling Co., Atha 2	¶5	3762
The Atha Co., Wallworth & Co. 1	¶1	3865
Abe Snider & Co., Beem 2	80	3703
Ohio Fuel Gas Co., Johnson 1	*	4050
PERRY COUNTY—		
Ohio Fuel Gas Co., Sunday Creek Coal 88	*	3583
Jones 4	*	1075
Hopewell Gas & Fuel Co., Lehman 1	¶1¼	....
Allegheny Oil Co., Porter 16	*	....
ATHENS COUNTY—		
Park Bowser & Co., Cooley 2	*	1447
Mosure & Co., Bean 10	5	258
Ohio Fuel Gas Co., Jeffers 1	*	1680
Gifford 6	¶½	1608
LICKING COUNTY—		
Emerald Petroleum Co., Rine 4	50	....
Wittmer Properties Trus., Mossholder 2	196	3046
Ohio Fuel Gas Co., Gruber 1	56	3006
ASHLAND COUNTY—		
Stewart & Co., Myers 3	10	761
Ohio Fuel Gas Co., Hines 1	¶3	....
Mason 1	¶¼	....
WAYNE COUNTY—		
Ohio Fuel Gas Co., Felton 1	¶½-37	....
Bryan & Co., Palmer 1	*	494
TUSCARAWAS COUNTY—		
Gordon Oil Co., Ripley 2	¶¾	3637
Asher 1	¶½	3635
COSHOCTON COUNTY—		
Ohio Fuel Gas Co., McCammet 1	145	3274
KNOX COUNTY—		
East Ohio Gas Co., Scholes 4	4	643
SUMMITT COUNTY—		
Brendall & Co., Kech 1	¶¼	....
MEDINA COUNTY—		
Ohio Fuel & Gas Co., Sutorius 1	¶¼	....
LORAIN COUNTY—		
Dillon & McFrederick, Pound Hrs. 1	*	2443
ASHTABULA COUNTY—		
Ohio Fuel Gas Co., Kelsey 1	*	....

NORTHWESTERN OHIO

SANDUSKY COUNTY—		
F. C. Obrein & Co., Michaels 1	*	1446

INDIANA

MONROE COUNTY—		
Petroleum Exploration Co., Peterson 1	¶1	....
State Life Ins. Co. 1	*	....
PIKE COUNTY—		
C. E. Wohmer, Morrison 2	*	....
H. C. Darby & Co., Stewart 4	*	1356
William Bell & Co., Lindy 3	10	1326
Harry Richer, Anderson 1	3	1160
Wiser Oil Co., Rumble 1	7	1352
SULLIVAN COUNTY—		
Twin Creek Oil Co., Williams 4	60	2225
DAVIESS COUNTY—		
L. G. Gee & Co., Wildman 3	15	1250
VIGO COUNTY—		
Siosi Oil Corp., Riggs 2, Tr. 9	5	2170

ILLINOIS

ST. CLAIR COUNTY—		
Joseph Weiss & Co., Phillips 1	50	561
Lon Coleman, Gardner 1	5	566
The Ohio Oil Co., Frye 8	70	745
Weldon & Hagerman, Eckert 2	20	726
Petroleum Enterprise Corp., Stewart 1	*	900
LAWRENCE COUNTY—		
The Ohio Oil Co., Buchannan 21	140	1276
MONROE COUNTY—		
Trowbridge & Co., Vogt 1	*	845

MICHIGAN

ISABELLA COUNTY—		
G.-Lee-P. Development Co., Grubb 1	100	....
Stork Oil Co., Coon 7	75	....
MIDLAND COUNTY—		
The Pure Oil Co., Fred Sias 3	706	....

ARKANSAS

OUACHITA COUNTY (Smackover)—		
Phillips Pet. Co., Betty Joyce 11, 33-15-15	70	2398

LOUISIANA

NORTH LOUISIANA

Company, Well and Location	Initial Bbls.	Depth
BOSSIER PARISH—		
Ark. Fuel Oil Co., Barnett B-2, 26-23-12	75	3167
Texas Company, Peyton 2 25-23-12	5	3195
H. L. Hunt, Peyton 9, 25-23-12	45	3222
CADDO PARISH—		
Texas Company, Leonard Fee 3, 29-20-15	55	2323
OUACHITA PARISH—		
Ark. La. P. L. Co., Rea-Green 5, 82-18-4e	¶¼	2230
Jordan Drilling Co., Cole 6, 30-18-4e	¶¼	2234
RICHLAND PARISH—		
Industrial Gas Co., Alexander 1, 4-16-6e	¶17¼	2450
Southern Carbon Co., Sartor 4, 18-16-6e	¶33½	2450

SOUTH LOUISIANA

BAY JUNOP—		
The Texas Co., LLE-Bay Junop 1, 27-21s-14e, Terrebonne Parish	*	4935
EAST HACKBERRY—		
Calcasieu Oil Co., Caldwell 5	*	6998
HACKBERRY—		
Yount-Lee, School Sect. 10	*	3429
IOTA—		
Calcasieu Oil Co. et al, Hayes 1, 10-8s-1w, Acadia Parish	*	6629
PORT BARRE—		
Gulf, W. H. Hoskins A-2	300	3400
VINTON—		
Wilson Broach, Wilson 2	3200	3500

TEXAS

TEXAS GULF COAST

BLUE RIDGE—		
Humphreys Corp., West-Schenck 5, dd	100	3750
HANKAMER—		
Gulf, Boyt 6	120	3512
HUMBLE—		
M. La Rue, Tr., Cicero 1, s side	50	3920
The Texas Co., House 24	*	3968
GOOSE CREEK—		
Gulf, Stateland Oil Co. 12, dd	100	3320
PIERCE JUNCTION—		
Saxet Oil Co., Hermann Hospital Est. 1, dd	*	4180
REFUGIO—		
Houston Gulf Gas Co., Morgan-Shelly 4	900	3651
Houston Oil Co., Kay 1	500	5478
Ryals 2	¶40	3517
Independent O&G Co., Mercy Academy 1	75	5454
SOUTH LIBERTY—		
Sun Oil Co., Mitchell 5, dd	40	3300
SPINDLE TOP—		
Yount-Lee Oil Co., McFadden 133	*	5140
McFadden 134	1560	4800
SUGAR LAND		
Humble, Nelson 10	30	3592

SOUTHWEST TEXAS

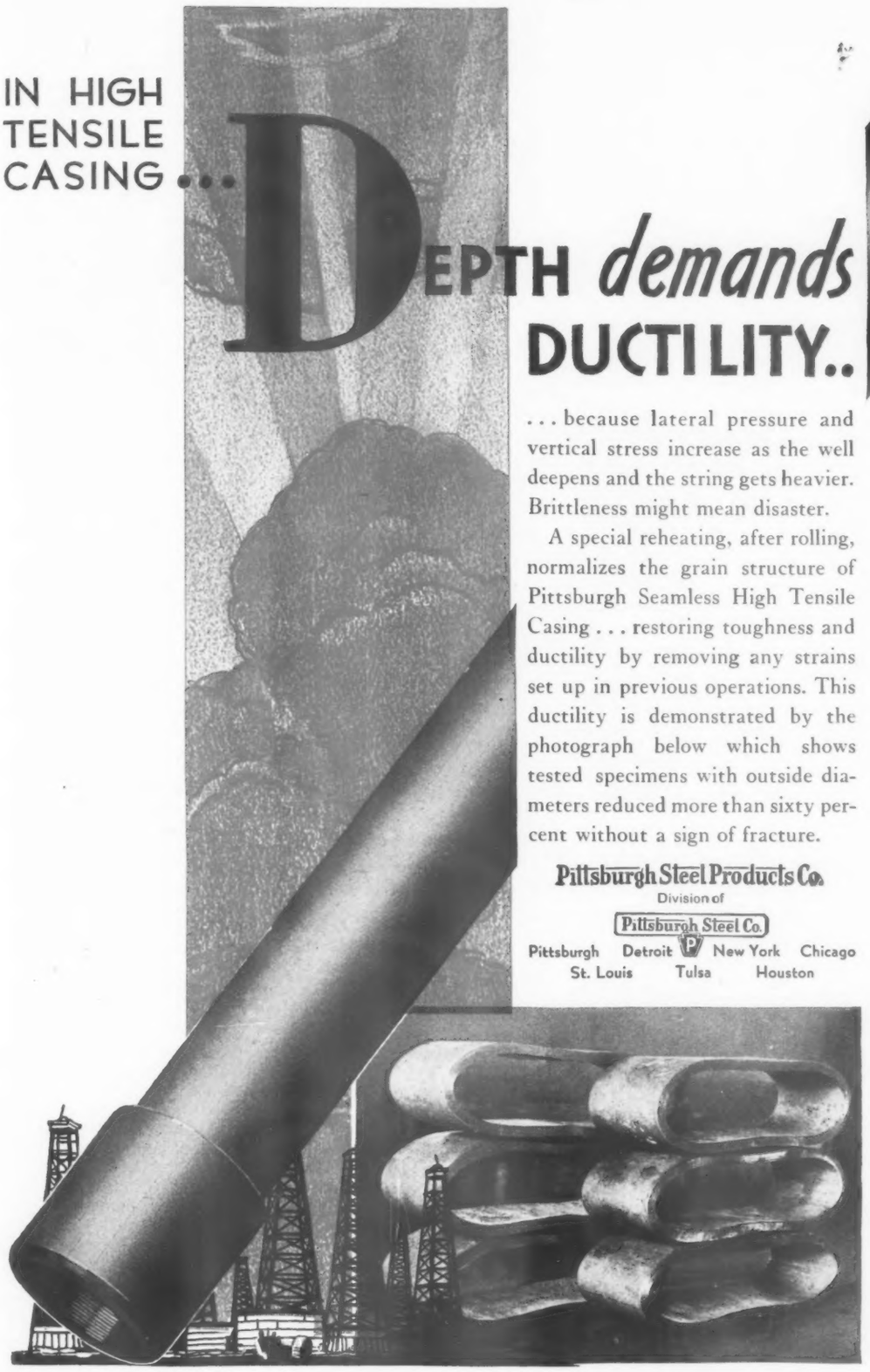
CALDWELL COUNTY—		
Brouche & Wilson, Riddle 1	*	2260
KENDALL COUNTY—		
Seaboard O&G Co., Askey 1	*	1010
DARST CREEK—		
La. Oil Ref. Corp., T. Dix 5	1400	2579
Dix-McKean 4-A	2560	2542
Sun Oil Co., Knoblock 8	1660	2483
WEBB COUNTY—		
O. W. Killam, Bruni 1, Blk. 22, Albercas Gt.	*	3656

WEST TEXAS

CRANE COUNTY—		
T P Coal & Oil Co., University 3	150	3078
ECTOR COUNTY—		
Cosden Oil Co., University 3-B	335	3654
Humble-Atlantic-Penn Oil Co., Kloh 8-D	155	3704
Kloh 9-D	980	3700
R. L. York 7	310	3710
HOWARD COUNTY—		
Plymouth Oil Co., Kloh 5	430	2456
PECOS COUNTY—		
The California Co., Iowa-Jasper 1	¶5-3	1620
Phillips Pet. Co., Ramsey 6	225	1624

IN HIGH TENSILE CASING...

DEPTH *demands* DUCTILITY..



... because lateral pressure and vertical stress increase as the well deepens and the string gets heavier. Brittleness might mean disaster.

A special reheating, after rolling, normalizes the grain structure of Pittsburgh Seamless High Tensile Casing ... restoring toughness and ductility by removing any strains set up in previous operations. This ductility is demonstrated by the photograph below which shows tested specimens with outside diameters reduced more than sixty percent without a sign of fracture.

Pittsburgh Steel Products Co.
Division of
Pittsburgh Steel Co.
Pittsburgh Detroit New York Chicago
St. Louis Tulsa Houston

Prompt deliveries of Pittsburgh Seamless High Tensile Casing can now be made in both 95,000 and 110,000 lbs. per square inch minimum tensile grades, made to A.P.I. Specifications.

Pittsburgh Seamless

HIGH TENSILE CASING

3021

CENTRAL WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
BROWN COUNTY—		
Bishop et al, Boysen 1	*	413
Paramount Oil Royalties Corp. et al, Shore 2	*	1325
Sellers et al, Brooks-Smith 1	¶1	1754
CALLAHAN COUNTY—		
Goodwin et al, Williams 1	*	983
Humble O&R Co., Kennard 1-B	¶4	1453
McCowan & Richardson, Baum 1	*	727
COLEMAN COUNTY—		
Dozier et al, Mathews 1	¶1½	1916
Paul Davies et al, Overall 1	*	1510
Gibson-Payne & Clark, Freeman 1	*	1868
COMANCHE COUNTY—		
Tex-Wa Oil Co. et al, Fisher 1	*	3048
EASTLAND COUNTY—		
Chestnut & Smith Corp., Jones 1	¶1¼-80	3610
Lone Star Gas Co., C. H. Fee 1	75	3809
Penn 1	¶2	3795
Lone Star Gas Co. & Hoffer Oil Corp. Grove 1	¶5½	3404
ERATH COUNTY—		
Associated Prod. Co., Mauldin 1	¶¼	3275
SHACKELFORD COUNTY—		
Freeman et al, Morris-Buie 1	195	1617
W. B. Holder et al, Brooks 1	*	627
Roeser-Pendleton, Inc., Dawson 2, Sec. 202	200	1618
Morris-Buie 1, Sec. 204	45	1598
Morris-Buie 1, Sec. 205	25	1715
T. K. Simmons et al, Harvey 4	*	1753
STEPHENS COUNTY—		
Herbert Oil Co. & Gulf, Langford 1	*	2315
L. W. Winklen et al, Bridges 1	†	712

NORTH TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
ARCHER COUNTY—		
C. E. Bailey et al, Brown 1-B	45	1292
Consolidated Oil Co., Tarr 1-B	*	1401
Bateman & Dingee, Turbeville 1	*	1428
L. T. Burns et al, Harmel 3-B	10	1442
Fain-McGaha Oil Corp., Hamilton 1-B	*	1284
C. W. Gilliland et al, Symank 3	15	1438
Rogers 1-B	*	1450
J. H. Massie et al, Richardson 12	45	1390
McLaughlin Bros. et al, Justice 1-G	*	1190
Petroleum Producers Co. et al, Campbell 1	*	1383
E. J. Stump et al, Huff 1	*	1830
BAYLOR COUNTY—		
Consolidated Oil Co. et al, Portwood 1-H	*	1402
Grisham-Barnsdall Oil Co., Harry-Portwood 4	75	1401
CLAY COUNTY—		
J. F. Merrick et al, Byers 4	40	1021
JACK COUNTY—		
E. J. Stump et al, Knox 1	*	3508
MONTAGUE COUNTY—		
Carter & Rycade Oil Corp., Cunningham 13	30	909
H. E. Crenshaw et al, Hinton 1	*	1852
J. L. King et al, Loy 1	10	815
The Texas Co., Henley 1	10	1020
WICHITA COUNTY—		
Arkansas Fuel Oil Co., K&K 33-A	50	1770
Comac Drlg. Co. & Prairie O&G Co., Neale 2-A	75	1778
Humble O&R Co., Taylor 26	15	1676
Lambert & Trout, Overby 3	110	1778
Roden & Benton, Honaker 1	*	2012
Staley-Wynne & Co., Neale 2	75	1779
United Prod. Co., Hodges 15-A	85	1774
WILBARGER COUNTY—		
L. G. Bradstreet Co., Waggoner 1-K	*	2825
Golding-Cochran et al, Waggoner 4-K	60	1940
Waggoner 5-K	*	1983
Hamilton et al, Waggoner 1	*	1301
Independent O&G Co. & Moran, Waggoner 2	20	2337
Phillips Pet. Co., Waggoner 1-V	35	1890
Staley-Wynne & Co., Waggoner 3-R	†	2427
Waggoner Ref. Co., Waggoner 12-P	40	2671
YOUNG COUNTY—		
Atlantic Oil Prod. Co. & Christie, Jarnigan 2-B	800	2553
Bunner Oil Co., Davis 8	7	913
W. S. Brazelton et al, Larimore 1	265	708
Campbell Oil Corp., Shaw 1	*	1165
Flowers & Barkley, Deats 1	*	1302
W. B. Hamilton et al, Larimore-Vandivert 2	260	7.8
G. B. Hamilton et al, Thomas 2	*	1036
Hunter Oil Corp., Bloodworth 3-A	60	1088
Independent O&G Co., Jarnigan 4	65	2612
Larimore 1	400	710
Jacob O&G Co., Holder 1	*	902
C. J. Kleiner et al, Logan 2	*	875
Geo. Mollenkoph et al, Larimore 1	*	765
Nimrod Oil Co., Hall 5	*	886
Panhandle Ref. Co., Lowe 5	*	673
A. H. Parks et al, Hall 3	10	895
Perkins & Cullum, Dunagan 14	50	1078
Preston Bros. et al, Pringle 1	*	1040
E. M. Remington et al, Terrell 1	*	750
Remington & Nelson, Bulock 1	*	738
Dr. E. R. Riggs et al, Larimore 7	1190	708
Shappell Oil Co., Garrett 8-A	*	614
O. H. Simpson et al, Larimore 1	720	709
H. R. Stastney et al, Wilson 1	*	1008
Wooten & Reed, Jordan 1	†	707
McBrayer 1	*	705

EAST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
PANOLA COUNTY—		
Ark. La. P. L. Co., L. Werner Co. 12, E. F. Mitcheson sur	¶1¾	3530

TEXAS PANHANDLE

Company, Well and Location	Initial Production Bbls.	Depth
CARSON COUNTY—		
Empire Gas & Fuel Co., W. H. Fuqua 3	¶18	2795
GRAY COUNTY—		
Clayton-Key Oil Co., E. Key 2	¶3½-100	2735
Continental Oil Co., Finley-Brown 6	270	2966
Empire Gas & Fuel Co., M. E. Jackson 1	220	3256
Magnolia Pet. Co., Carrie Wright 9	¶5-680	2870
Phillips Pet. Co., Wright-Wood 4	¶10-2820	2717
Southern Pet. Explo. Co., Vaughan 1	325	3211
The Texas Co., J. E. Wright 3	¶5-600	2910
Wilcox O&G Co., Coombs-Worley 11	100	2870
HUTCHINSON COUNTY—		
Alamosa Oil Co., J. M. Sanford 4	¶1-10	3095
Continental Oil Co., Johnson 1-E	¶61	3610
Texarado Oil Co., J. M. Sanford 2	¶20-40	3109
POTTER COUNTY—		
Canadian River Gas Co., R. B. Masterson 1-N,	¶20	2720
WHEELER COUNTY—		
Lone Star Gas Co., A. H. Finley 1	¶20	1946
Northern Texas Utilities Co., O. Hosher 1	¶37	1851
Piney O&G Co., W. E. Bentley 3	¶9-100	2340

CENTRAL EAST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
VAN ZANDT COUNTY—		
Pure Oil Co., J. T. Thompson 6	2000	2934
Shell Pet. Corp., E. L. Fowler 6	2500	2964
I. P. Tunnell 5	5060	2944

NEW MEXICO

Company, Well and Location	Initial Production Bbls.	Depth
LEA COUNTY—		
Cranfill-Reynolds Co. et al, State 1-C	150	3953
Shell Pet. Corp., State 1-A,	¶35-10,000	4175
H. D. McKinley 1	¶10-15,000	4210

Shell Earnings

New York.—Shell Union Oil Corporation in the fiscal year ending December 31, 1929, showed consolidated net earnings, with provision for depletion, depreciation, taxes and interest, on debentures, of $17,573,249.10. After deduction of $1,045,000 for dividends on preferred stock there was left $16,528,249.10 applicable to common stock. Previously accumulated surplus from earnings enabled the directors to apply $1,757,736.45 for the continuation of the regular dividend. Profit and loss account includes profits of Shell Oil Company, Shell Petroleum Corporation and their subsidiaries, Shell Eastern Petroleum Products, Inc., Shell Pipe Line Corporation, dividends received from The Flintkote Company, and the company's share of the profits of Comar Oil Company, Wolverine Petroleum Corporation, and Shell Company of Canada, Ltd.

During the year companies subsidiaries acquired substantial holdings in the Kettleman Hills fields in California and elsewhere. Companies' activity occurred in fields already in an advanced state of development. Through discovery of deeper horizons at Santa Fe Springs and in the Long Beach field, companies' subsidiaries were forced to competitive drilling to protect their position. In the Ventura field a more rational development took place. In the Mid-Continent area, companies' subsidiaries were forced to curtail development because of overproduction and the various proration agreements entered into between the producing companies. In the Gulf Coast production was developed in the White Castle dome in Louisiana.

Production of crude oil by Shell Oil Company, Shell Petroleum Corporation, and Wolverine Petroleum Corporation for the year 1929 was 54,416,744 barrels gross, or 46,790,887 barrels net, which includes companies' share in production of Comar Oil Company. Actual daily production of combined companies on December 31, 1929 was 114,690 barrels net as against a daily production of 124,502 barrels net for the same day the previous year.

Early in 1929 the company acquired through a subsidiary by purchase the assets of the New Orleans Refining Company, Inc., which includes a 15,000-barrel refinery. Also during the year the Houston refinery was completed with a daily capacity of 20,000 barrels. All of the refineries of the combined companies have been kept in up-to-date condition and a vapor phase cracking plant is in course of construction at Wood River, Illinois. At the end of the year daily crude and pressure distillate intake capacity of refineries was 290,000 barrels, which compares with 240,000 barrels per day as of December 31, 1928.

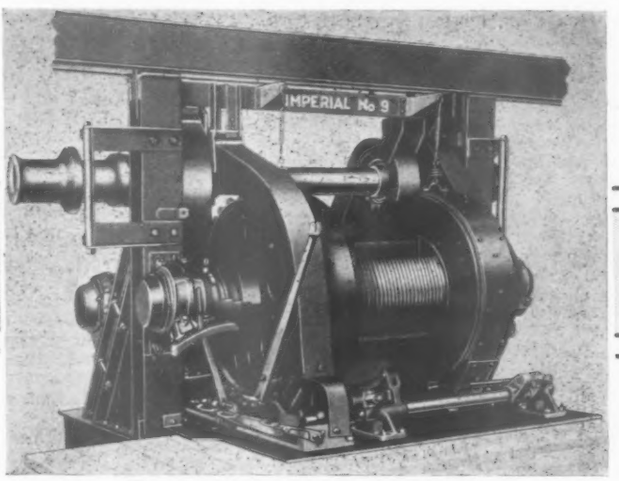
The combined companies have a total of 3683 miles of pipe lines; a new pipe line having been built to Houston.

During the year a considerable expenditure of capital took place. Funds were required for the completion of the refinery at Norce, for the completion of the pipe line to Houston, for the acquisition of oil lands, and for distributing and marketing facilities. These funds were provided through issuance of $40,000,000 in 5½ per cent preferred cumulative convertible stock. In September the board authorized an issue of $50,000,000 in 20-year five per cent sinking fund gold debentures with stock purchase warrants attached. And finally, the great expansion of business on the Pacific coast made necessary the erection of a 29-story office building in San Francisco.

Total number of employes at the end of 1929 was about 34,000; total number of employes receiving free life insurance policies is about 14,900, and the number of employes enjoying the benefits of the provident fund is 5198.

THE STANDARDIZED HEAVY DUTY BEARING OF THE OIL INDUSTRY

PROGRESS in HOISTS



The "Oil Well" Imperial No. 9

HOIST

The entire hoist is American self-aligning roller bearing equipped. Bearings are Alemite lubricated and guarded against intrusion of dirt. Bearing housings on the jack shaft and line shaft are interchangeable. Line and jack shafts are each eight inches in diameter. All shafts can be completely stripped of sprockets, clutches, drum and collars on the derrick floor.

One more step forward—

A new design—an advanced standard of construction—all for the purpose of handling heavy loads better than before. And since the basis of satisfactory operation rests on the quality, the choice continues to be

AMERICAN HEAVY DUTY ROLLER BEARINGS

AMERICAN ROLLER BEARING COMPANY, PITTSBURGH, PA.

Frank M. Cobbledick Co., 1031 Polk St., San Francisco

Pacific Coast Representatives

Edward D. Maltby Co., 321 W. Pico St., Los Angeles

PERMITS GRANTED FOR NEW WELLS

ARKANSAS

SEBASTIAN COUNTY — Ozark Natural Gas Co., A. D. Weaver 10, (drill) , 27-8-30, 660 ft n and 660 ft w of se c se nw.

WASHINGTON COUNTY—H. H. Taylor, C. E. Rummey 1 (drill), 1-13-29, 100 ft s of c of ne sw.

OUACHITA COUNTY — J. D. Reynolds, Reynolds & Berg 3 (drill), 27-15-15, 200 ft s and 675 ft w of ne c se sw.

MILLER COUNTY—Vincent Lenz, G. W. Johnson 1 (drill), 24-15-26, 400 ft s and 400 ft w of ne c sw.

UNION COUNTY—La. Oil Refg. Corp., T. C. Murphy A-2 (plug and perf). 9-16-15, se c nw se.

LOUISIANA

ACADIA PARISH—Chas. P. Siess, Tr., Lake Charles, J. Roller 1, 8-9s-1e, 1100 ft n and 1290 ft w of se of sec.

BOSSIER PARISH—Gulf Refg. Co. of La., Shreveport, T. F. Allums et al 1, 26-23n-12w, 990 ft n and 330 ft w of se of sec. Palmer Corp., Shreveport, Roberson 2, 26-23n-12w, 330 ft n and 330 ft e of swc nw of ne. The Texas Co., Shreveport, J. W. Wilkinson 10, 36-23n-12w, 250 ft n and 330 ft w of se of ne. The Texas Co., Shreveport, J. W. Wilkinson 11, 36-23n-12w, 330 ft n and 990 ft w of se c of ne.

CADDO PARISH—Falcon Oil Co., Inc., Shreveport, Nunley 4, 29-20n-15w, 3004 ft n and 3150 ft e of sw c of sec.

CALCASIEU PARISH—The Wilson Broach Co., Beaumont, Texas, Strip 3, 33-10s-12w, 410 ft n and 126 ft e of sw c se of ne.

CALDWELL PARISH — A. E. Hudson Agt.,. Monroe, C. M. Swett 1, 4-11n-3e, 240 ft n and 340 ft e of swc ne of nw.

CAMERON PARISH—F. A. Book, El Dorado, Ark., Hanzen 1, 27-12s-10w, 50 ft n and 467 ft e of sw c nw of nw.

LA SALLE PARISH—Montague Oil Co., Zenoria, Zenoria Lbr. Co. 8, 10-9n-1e, 710 ft s and 250 ft w of ne c of sec.

RICHLAND PARISH — Island Gas Co., Monroe, Noe 1, 3-16n-5e, 1902 ft n and 660 ft w of se c of sec. Palmer Corp.'s Shreveport, Seubert et al 1, 1-16n-5e, 1356 ft n and 88 deg. 35 ft w and 660 ft n of se c of sec.

SABINE PARISH—Z. Lohman, Jr. & G. E. Walker, Many, Hubley 1, 21-7n-11w, 330 ft n and 330 ft w of se c se of ne.

ST. LANDRY PARISH—The Texas Co., Shreveport, Botany Bay 8, 4-6s-5e, 8253 ft southerly along w line of T. T. Co. Botany Bay tract from nw cor. on Bayou Courtableau and 50 ft e at right angles.

TERREBONNE PARISH—The Texas Co., Shreveport, LLE-Four Isle 4, 22-21s-16e, 3054 ft n and 259 ft w of se of sec. The Texas Co., Shreveport, State-Lake Pelto 4, 8-23s-18e, 2500 ft n and 840 ft w of se c of sec. The Texas Co., Shreveport, State-Lake Pelto 5, 8-23s-18e, 1500 ft n and 1500 ft w of se c of sec. The Texas Co., Shreveport, State-Lake Pelto 6, 8-23s-18e, 1650 n and 670 ft w of se c of sec.

UNION PARISH—J. P. White, Monroe, W. Howard 1, 32-20n-3e, 660 ft s and 660 ft w of ne c of sec.

OKLAHOMA

CADDO COUNTY—Magnolia, Sames 3, se ne ne, 35-6-10w.

CHEROKEE COUNTY—Weaver and Proctor, Benge 1, sw c ne ne nw, 8-14-21e.

COMANCHE COUNTY—Max Pray Oil Company, Kline 1, ne c, 8-3n-10w.

COTTON COUNTY—Shasta Oil Co., Patterson 12, nw c sw sw nw, 1-2s-10w; Shasta, Slogan 15, sw c se ne ne, 2-2s-10w; Wirt Franklin Pet. Corp., School 2, sw c, 36-1s-10w.

CREEK COUNTY—O. H. Irelan, Baker 1, ne c se, 10-17-10e; Carpenter et al, Collins 1a, sw c se ne nw, 4-17-11e.

HUGHES COUNTY — Independent O&G Co., Jackson 1, nw ne se, 17-7-8e.

Tabulation and Comparison on page 44

JEFFERSON COUNTY—Kiel and Wylie, Seay 1, sw c nw sw nw, 35-6s-5w.

LINCOLN COUNTY—T. J. Hughes et al, School 1, nw c ne, 36-17-3e.

MARSHALL COUNTY—F. W. Merrick et al, Null 20, ne c nw nw, 24-5s-5e; Otto Reynolds, Sullivan 1, se c nw se nw, 30-5s-6e.

MUSKOGEE COUNTY — C. F. Finefield et al, Murrell 1, se c, 5-15-18e; J. L. Haner, Stedham 8, se c ne ne se, 8-15-18e; H. E. Williams, Robins 1, nw c sw nw, 13-15-18e; J. R. Parks, Roberts 1, nw c sw nw se, 15-15-18e; Beard and Elliott, Dixon 2, sw c se sw, 3-13-16e; Mid-Western O&G, Lacey 1, c ne sw, 31-12-19e.

OKFUSKEE COUNTY — Shell Pet. Corp. et al, Wilson 1, se c ne, 21-12-11e. Atlantic Oil Prod. Co., Jimboy 1, se ne ne, 11-11-10e. Pure Oil, Barnett 4, (owdd), cel se nw, 25-11-11e.

OKLAHOMA COUNTY — Minnehoma O. & G., Pugh 1, sw c nw nw, 2-11-3w. Plains Pet. Co., Alexander 1, se c nw nw, 2-11-3w. Slick et al, Foote 3, e½ nw se sw, 2-11-3w; Slick and Atkinson, Key 1, nw se sw, 2-11-3w; Slick and Atkinson, Miller 1, sw se sw, 2-11-3w. Slick, Lard 1, nw c, 2-11-3w. Slick, Moore 1, sw ne sw, 2-11-3w, Slick, Wilson 1, nw sw nw, 2-11-3w. Glidden Oil Co., Brewer Community 1, se ne se, 3-11-3w, Park O&G, 1, ne c nw, 3-11-3w. Hall and Briscoe, Holmes 2, sw ne se, 10-11-3w, Hall and Briscoe, Holmes 3, w½ nw ne se, 10-11-3w. Hall and Briscoe, Holmes 4, se nw se, 10-11-3w. Independent O&G and Sinclair O&G, Hatcher 1, se ne ne, 10-11-3w. I. T. I. O., View Point 1, ne c sw se, 10-11-3w. Plains Oil Co., Schillings 1, nw se se, 10-11-3w. Plains Oil Co., Community 1, se se nw ne, 10-11-3w. Skelly et al, Tanner 1, ne c se se ne, 10-11-3w. Skelly et al, Tanner 2, ne se ne, 10-11-3w. Skelly et al, Ainsworth 1, sw ne se, 10-11-3w. Skelly et al, Ainsworth 2, se ne se, 10-11-3w. Skelly et al, Ainsworth 3, e½ nw ne se, 10-11-3w. Skelly et al, Ainsworth 4, ne c se, 10-11-3w. Slick, Frost 1, se c, 10-11-3w. Slick, Frost Heights 1, nw se se, 10-11-3w. Slick, Frost Heights 2, ne sw se se, 10-11-3w, Slick, Frost Heights 3, nw se se se, 10-11-3w. Slick, Frost Heights 4, ne se se, 10-11-3w. Cromwell-Franklin Trosper Park 29, nw sw nw, 13-11-3w. Plains Oil Co. and Denver Prod. & Ref. Co., Boulevard View 1, nw c sw nw nw, 14-11-3w. Denver Prod. & Ref. Co., Harvey 1, s½ se se se, 15-11-3w. Denver Prod. & Ref., Harvey 2, n½ sw se se, 15-11-3w. I. T. I. O. et al, Capshaw 1, se c nw, 23-11-3w. Mid-Kansas O&G, Mollman 4, nw c se, 23-11-3w.

OKMULGEE COUNTY—Aiken Oil Co., Sloan 7, (owdd), cnl ne nw, 22-13-14e.

OSAGE COUNTY—Winona Oil Co., 15, nw ne ne, 20-29-9e. Vacuum Oil Co., 6, nw se se, 15-26-6e. Vacuum Oil Co., 4, nw se ne, 22-26-6e. I. T. I. O., 430, se c sw sw se, 28-25-12e. I. T. I. O., 432, ne c se ne ne, 6-25-11e. I. T. I. O., 2, se c ne ne, 14-23-8e. I. T. I. O., 431, se c sw, 3-23-8e. Devonian Oil Co., 5, ne c se sw, 30-21-10e. Osage Syndicate 2, sw c ne, 1-21-8e.

PAWNEE COUNTY—Henreco Producing Co., Cotton 3, (owdd), cwl sw ne, 6-20-8e. Swift et al, Smelzer 5, se c nw, 35-20-9e. O. D. Steen, Ackley 1, se sw sw, 24-20-9e.

PITTSBURG COUNTY — Central States Light & Power Co., Bascom 1, nw c se se, 10-7-18e.

PONTOTOC COUNTY—Denver Producing & Refining Co., Hickman 2, sw se se, 25-5-4e.

POTTAWATOMIE COUNTY — Clark & Cowden, Townsite 2, nw c se sw nw, 8-9-5e. Eason Oil Co., Townsite 1, cel sw sw nw, 8-9-5e. Stauffer et al, Townsite 1, nw c se se sw, 18-6-4e.

SEMINOLE COUNTY — Sinclair O&G, Cully 2 "A," sw ne nw, 13-5-7e. Gypsy, Payne 10, nw se ne, 5-7-7e. Harris et al, Chupco 3, se ne se, 20-6-6e.

STEPHENS COUNTY — Hedrick et al, Pope 1, ne c nw ne, 29-1s-8w. Pearce & Brown, Wilkinson 1 "B," sw c se, 21-1s-8w (owdd.)

TEXAS COUNTY—Three Way Oil Co., Johnson 1, sw c nw, 11-1n-18 ECM (owdd.)

WAGONER COUNTY — H. L. Hollingsworth, Belcher 1, se c sw, 21-19-16e. Ash Bros., Childers 2, sw c nw se, 15-18-17e.

KANSAS

BUTLER COUNTY — P W Y Oil Co., Rutherford 2, cel se nw, 24-27-4e. Empire O&R, Koogler 100, sw nw se, 20-26-5e.

COFFEY COUNTY—Selby O&G et al, Eppinger 1, nw ne nw, 23-22-13e.

COWLEY COUNTY—Lewis Production Co. et al, Hill 1 "B", se sw nw, 20-31-6e.

ELK COUNTY—Producers & Refiners Corp. Williams 1, (owdd), sw c nw, 36-30-9e.

McPHERSON COUNTY—Gypsy, Stucky 1, sw c se, 33-20-3w. Gypsy, Stucky 2, ne sw se, 33-20-3w. Sinclair, Morehouse 11, nw c ne, 4-21-3w. Sinclair, McCurdy 3, nw se se, 33-20-3w. Graham Bros., Rolander 1, se sw sw, 20-18-2w, (owdd). Dixie Oil Co. & Amerada, Kreheil 1, ne c nw, 4-21-2w.

MORTON COUNTY—McNabb et al, Rickerts 1, c se, 5-35-39w.

RENO COUNTY—E. L. Sutdy et al, Haury 1, ne c sw, 1-23-4w.

ROOKS COUNTY—Stearns & Streeter et al, Conger 1, se nw ne, 16-10-16w.

RUSH COUNTY—Flynn et al, Tammen 1, e sw 11-18-16w.

RUSSEL COUNTY — Stearns and Streeter, Mitchell 1, se c, 6-15-14w. Empire O&R, Herbel 1, nw ne sw, 26-14-14w.

SEDGWICK COUNTY — E. B. Shawver, Robbins 1, se nw sw, 21-28-1e. Wentz Oil Corp., Bright 1a, sw se ne, 1-26-1w.

STEVENS COUNTY—Trees Oil Co., Breckerson 1, c nw, 3-35-38w. Trees Oil Co., Mitchell 1, c se, 3-35-38w. Barrington et al, Kramers 1, c nw, 2-35-39w. Trees Oil Co., Myers 1, c nw 10-35-38w.

SUMNER COUNTY—Lario Oil Co. et al, Weinrich 13, cwl se nw, 23-32-2e.

WOODSON COUNTY — Henderson et al, Wilhite 1, sw ne sw, 14-26-13e.

TEXAS

ARCHER COUNTY — Schulz & Weaver, Wichita Falls, F. C. Green, 160, 1, J. Levins sur, 150 ft from s and e lines. Looney & Hutcheson, Archer City, Texas, G. G. Dickey, 60, 1, Wm. Henry sur, 873 ft from s and 150 ft from e line. Abercrombie, Hickman & Heydric, Wichita Falls, Abercrombie, 40, 1, B 13, Club Ranch sur, 150 ft from n and 1150 ft from w line. L. T. Burns, Wichita Falls, J. H. Turbeville, 120, 1H, J. H. Cain sur, 450 ft from w and 2490 ft from s li B 169. J. F. Merrick, Wichita Falls, R. R. Rainey, 202 2, R. R. Rainey sur, 700 ft from e and 2000 ft from s line. G. L. Pace, Wichita Falls, G. Munroe 2, 1, Sanders sur, 150 ft from n and w lines of Blk. 125. L. T. Burns, Wichita Falls, L. W. McCrory, 120, 2R, Blk. 108, Amer. Trib. sur, ne corner. Fain-McGaha Oil Corp., Wichita Falls, G. B. Hamilton, 40, 1, Crawford sur, 150 ft from n and e lines. J. H. Massie, Wichita Falls, L. Echols, 40, 1, 2418 TE&L sur, 150 ft from n and 750 ft from e line.

BROWN COUNTY—H. P. Evans, Brownwood, A. Vardeman, 53, 1, S 9, HT&B sur, 450 ft from n and w lines. G. E. Metcalf, Brownwood, Beck 40, 1, Sec. 43, T&NO sur, 750 ft from e and 150 ft from s line. Kewanee Oil & Gas Co., Tulsa, Okla., R. Hickman, 100, 27, S 801, J. McGloin sur, 450 ft from s and w lines. E. L. Smith Oil Co., Inc., Mexia, S. J. Pugh, 137, 1, No. 40 M. Little sur, 543 ft from

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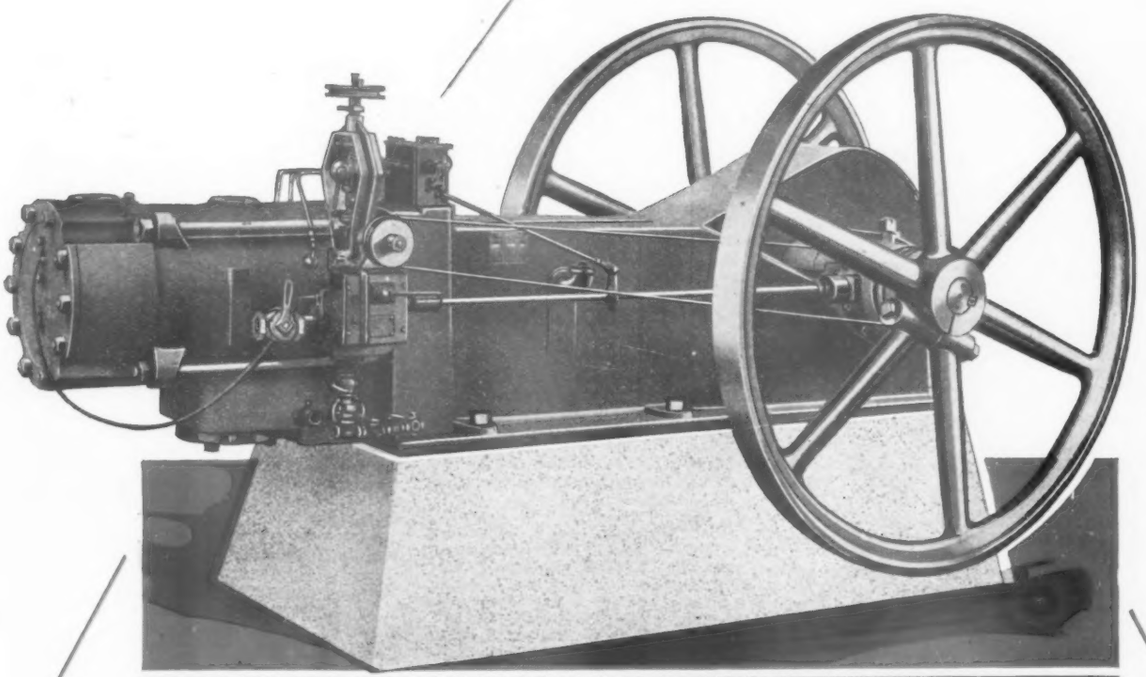

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n and 750 ft from e line. R. C. McCarter, Rising Star, W. N. Favors, 50, 1, No. 191 Wm. English sur, 150 ft from s and e lines. J. E. Ellis, Brownwood, B. S. Boysen, 40, 1, No. 604 P. Mangle sur, 368 ft from e and 900 ft from s line. Eppenauer Drilling Co., San Angelo, A. B. Shield, 35, 1, S 25, J. C. Brown sur, 150 ft from n and 741 ft from w line.

BAYLOR COUNTY—Douglas Oil Co., Tulsa, Okla., A. F. Robertson, 640, 1, S 264, H&TC sur, 2700 ft from n and 628 ft from e li sec. Sill & Chenault, Wichita Falls, W. H. Portwood, 80, 1A, 3141 TE&L sur, 1716, ft from n and 150 ft from w li sur. Consolidated Oil Co. & Petroleum Prod. Co., Wichita Falls, Texas, W. H. Portwood, 80, 19, 1281 TE&L sur, 30 ft n of No. 18.

BEE COUNTY—The Texas Co., Houston, J. R. Scott, 84, 2, I. M. Urango sur, 200 ft from n and 150 ft from w line. Cosden Oil Co., Fort Worth, R. A. McKinney, 200, 2, Jno. Pace sur, 300 ft from e and 858 ft from s line; 3, 80 ft from e and 361 ft from s line. Humble, Houston, M. M. McKinney, 4, L. C. Randolph sur, 250 ft from sw and 1143 ft from n line. Batex Prod. Co., San Antonio, Barnett, 100, 1, Jno. Pace sur, 361 ft from n and 300 ft from e line. Amended Location. Houston Oil Co., Houston, M. A. Newman, 397, 1, G. A. Kerr sur, 243 ft from s and w lines.

BEXAR COUNTY—J. M. Russell, San Antonio, Story, 40, 1, A. Navarro sur, 960 ft from w and 1590 ft from s line. Eckert & Son, San Antonio, Sandemer, 110, 6, No. 52 sur, 400 ft w of No. 5. Penn Tex Oil Co., San Antonio, L. Sandmer, 107, 2, No. 52 M. Manchaca sur, 350 ft w of No. 1.

BRAZORIA COUNTY — Freeport Sulphur Co., Freeport, Fee, 110, 2001, C. Arecla sur, center. L. Patterson, Angleton, L. Proebstle, 41, 1, No. 92, J. McNeel sur, 370 ft from n and 634 ft from e line.

BURNETT COUNTY — J. P. Hobbs, San Antonio, S. E. Guthrie, 626, 1, T. C. Ry. sur, 160 ft from n and 450 ft from w line.

CALLAHAN COUNTY—Woodley Pet. Co., Shreveport, La., E. L. Finley, 737, 6D, S 73, Bayland Asy. sur, 315 ft w and 285 n of No. 5. Star Drilling Co., Wichita Falls, E. L. Finley, 117, B1, S 76, Bayland Asy. sur, 450 ft from n and 150 ft from w line. Grassroots Oil Co., Fort Worth, P. Bond, 100, 1, Cummins sur, 150 ft from w and 1350 ft from s line. C. W. Kutts, 70, 3, Brown sur, 150 ft from n and 500 ft from w line. Geo. Goodrum, Santa Monica, Calif., R. D. Williams, 110, 1, S 26, D&D Asy. sur, 150 ft s of center of n line. F. S. Hudson, Rowden, Texas, Hudson, 79, 1, S 338, B 8, VCSL sur, 150 ft from n and 170 ft from w line.

CHAMBERS COUNTY—Rio Bravo, Houston, D-GC, 1, Z. Fisher sur, center. Texas Co., Houston, Texas, Jackson, 1, T&NO sur, 2625 ft from n and 1000 ft from e li Sec. 17. Humphreys Corp., Houston, E. W. Barber, 38, 1B, H. Griffith sur, 75 ft from e and 140 ft from s line. Humble, Houston, W. D. Myers, 6, Wm. Bloodgood sur, 50 ft from s and 1278 ft from w line.

CLAY COUNTY—L. L. Bain, Iowa Park, A. Culbertson, 40, 6, K. McKenzie sur, 300 ft nw of No. 3. Peterson & Temple, Wichita Falls, Edrington, 160, 1, S 35, HT&B sur, 150 ft from n and w lines. Saxet Oil Co., Petrolia, Stine J., 5, B 1, S 5, PCSL sur, 265 ft n of No. 4. Mid-Continent Holding Corp., Wichita Falls, Body, 1, E. Humphries sur, 5808 ft from n and 3765 ft from w li sur.

CROCKETT COUNTY — California Co., Midland, J. M. Shannon, 480, 3, S 42, B BB, EL&R sur, 1831 ft from e and 331 ft from s line.

CRANE COUNTY—Sun, Dallas, First State Bank, 640, 1, S 6, J. H. Gibson sur, center. Church & Weekly, Fort Worth, University 40, 3, S 34, B 30, 330 ft from e and 990 ft from n li se sw.

COLORADO COUNTY — Penn Oil Co., Humble & Gulf, Houston, H. Wilson, 1, J. McCrosky sur, 450 ft from n and w lines.

COLEMAN COUNTY—G. E. Lamb et al, Brownwood, Griffin, 50, 1, No. 95 R. Perry sur, 450 ft from w and 150 ft from s line. Atlantic & Anzac Oil Corp., Coleman, M. N. McCulloch, 89, 1, No. 744 M. Lappe sur, 1050 ft from w and 150 ft from n line.

CARSON COUNTY—McMan O. & G. Co., Tulsa, Okla., F. E. Percival, 80, 3, S 199, B 3, I&GN sur, 660 ft s of No. 2, w½ ne.

COOKE COUNTY—Danciger Oil & Ref. Co., Fort Worth, F. J. Truenbach, 150, 2, J. Clarke sur, 150 ft from s and w lines. Seitz, Comegys & Seitz, Inc., Wichita Falls, Fields, 60, 1, J. Banning sur, 150 ft from n and w lines.

CALDWELL COUNTY—Humble & Gulf, Houston, T. Briscoe, 100, 3, J. D. Raines sur, 300 ft n of No. 1. Al Buchana & Danciger, San Antonio, R. M. Medlin, 30, 2, O. M. Cannon sur, 300 ft ne of No. 1. Eastland Oil Co., Fort Worth, C. F. Dye, 61, 1, J. Hinds sur, 150 ft from s and e lines.

DUVAL COUNTY—Putnam & Walsh, San Antonio, E. R. Hagist, 40, 1, S 269, B 5, J. Poitevent sur, 570 ft from n and 150 ft from e line. Henne & Winch, Laredo, R. Benavides, 52, 1, No. 4, B 22, M. Arispe sur, 175 ft from w and 205 ft from s line.

EASTLAND COUNTY—Lone Star Gas Co., Dallas, C. E. Allen, 2000, 3, Jno. Foster sur, 660 ft from n and w lines of survey. L. Teatsorth, Eastland, V. Harbin, 53, 4, S 9, B 4, H&TC sur, 550 ft from n and e lines.

ECTOR COUNTY—Penn Oil Co. & Devonian Oil Co., Dallas, W. F. Cowden, 640, 1, S 27, B 44, Twp. 1n, 330 ft w of center of e li sec.

ELLIS COUNTY—Triangle Corp., Waxahachie, W. B. Hale, 36, 1, B. Smith sur, 500 ft from n and 300 ft from e line.

FORT BEND COUNTY—Humble, Houston, Brazos, 15, Wm. Little sur, 175 ft from n and 250 ft from e line. Gulf, Houston, J. M. Moore, 23, M. Smith sur, 5292 ft from n and 425 ft from e line; J. M. Moore 24, Jas. Frazier sur, 5017 ft from n and 921 ft from w line.

FANNIN COUNTY — Biltmore Oil Co., Fort Worth, E. G. McSwain, 200, 1, J. Delgado sur, 660 ft from w and 275 ft from s line.

FISHER COUNTY—Midwest Exploration Co., Amarillo, R. M. Decker, 60, 1, S 8, B R, W. E. Richardson sur, 330 ft from s and w lines. Cranfill & Reynolds, Houston, J. E. Cooper, 1, BBB&C sur S 200, 990 ft from w and 330 ft from s line sec. W. Flanigan, 2, S 198, BBB&C sur, 330 ft from s and e li w½.

GRAY COUNTY—Derosa Oil & Gas Co., Amarillo, J. M. Saunders, 160, 2, S 41, B 3, I&GN sur, 330 ft from s and e lines. Panhandle Ref. Co., Wichita Falls, G. H. Saunders, 80, 5, S 3, ACH&B sur, 660 ft n of No. 4. Nabob Oil & Gas Co., Amarillo, J. S. Morse, 160, A3, S 68, B 25, H&GN sur, 990 ft from s and e lines of sec; A2, S 54, B 25, H&GN sur, 330 ft from n and w lines of ne nw. The Texas Co., Wichita Falls, W. W. Harrah, 160, 1, S 150, B 3, I&GN sur, 330 ft from s and e lines of sec; 2, 330 ft from n and e lines of se. Prairie, Ranger, A. W. Leycomb, 4, S 36, B 3, I&GN sur, 672 ft s of No. 1; 5, 660 ft w of No. 3. D. W. Carey, 1, S 114, B 3, 330 ft from n and 272 ft from w li sec. J. L. Neel, 3, S 198, B 3, I&GN sur, 330 ft from s and e lines ne se. Danciger Oil & Ref. Co., Fort Worth, G. N. Powell, 320, 8, S 28, B B2, H&GN sur, 990 ft from s and 330 ft from w line nw. Continental, Wichita Falls, C. Wright, 160, 1, S 13, B 3, I&GN sur, 330 ft from s and w lines of nw. Cockrell-McIlroy Oil Co., Amarillo, Archer, 160, 7, S 130, B 3, I&GN sur, 330 ft from s and w lines of nw. Dixon Creek Oil Co., Amarillo, Harrah, 40, 4, S 150, B 3, I&GN sur, 330 ft from s and e lines of ne. Magnolia, Dallas, R. Harrah, 160, 5, S 150, B 3, I&GN sur, 330 ft from s and e lines of nw. Champlin, Enid, Okla., D. J. McLaughlin, 160, 4, S 33, B B2, H&GN sur, 990 ft from s and 330 ft from e li ne. Phillips, Bartlesville, Okla., J. Foxx, 80, 3, S 36, B 3, I&GN sur, 330 ft from n and e lines of w½ ne; J. E. Woods, 80, 5, S 13, B 3, I&GN sur, 330 ft from n and w lines of n½ sw.

GOLIAD COUNTY — Moody-Seagraves Prod. Co., San Antonio, F. R. Perrira, 160, 1, F. P. Zoch sur, 150 ft from n and w lines of Blk. 14.

GONZALES COUNTY—Sterne & Terrell, Gonzales, F. Ramzinsky, 230, 1, Gonzales, 1350 ft from n and 614 ft from w line.

GRIMES COUNTY — Cranfill & Reynolds, Houston, G. C. Stoneham, 1, J. J. Whitesides sur, 2850 ft from w and 150 ft from n li sur.

GRAYSON COUNTY—R. F. Smith, Fort Worth, E. R. O'Neill, 715, 1, S 282, J. Aitkin sur, 150 ft from w and 800 ft from s line.

GUADALUPE COUNTY—Trinity Drillers, Inc., San Antonio, H. G. Goldman, 7, 1, J. B. Alexander sur, 150 ft from s and w lines.

HARRIS COUNTY—Rio Bravo, Houston, HE&WT, 1, W. B. Adams sur, center. Marshall & Harman, Humble, Brazos Oil Co., 100, 46, Landslide sur, 150 ft from w and 200 ft from s line, Blk. 6.

HARDIN COUNTY — Paraffine Oil Co., Houston, Dies, 5, 1, B 8, Choate sur, 50 ft from e and 60 ft from s line. Rio Bravo, Houston, Fee, 158, C84A, J. F. Cotton sur, 4 ft n of No. C 84.

HASKELL COUNTY—Roser & Pendleton & Reynolds Land & Cattle Co., Albany, Reynolds, 374, 1, S 2, O. A. Matthews sur, 220 ft from n and 660 ft from w line.

HILL COUNTY—H. H. Hodde, Malone, H. Giltmier, 120, 1, B 6, NCSL sur, 1600 ft from n and 2300 ft from e line.

HUTCHINSON COUNTY — Smith, MacDonald & McMillan, Electra, H. C. Pitcher, 80, 2, S 19, B M21, T. C. Ry. sur, 330 ft from s and w lines. Antelope Creek Oil & Gas Co., Amarillo, J. M. Sanford, 160, 4, S 82, B 46, H&TC sur, 330 ft from s and e lines. Skia-Tex Pet. Co., Amarillo, Kingsland, 9 S 6, B Y, M&C sur, nw cor of se of se. Phillips, Bartlesville, Okla., O. M. Childers, 635, 1, S 9½, Z. C. Collier sur, se corner of sec. W. E. Herring, 320, 1, S 7, B X02, H&OB sur, se corner of sec.

KENDALL COUNTY—C. R. Dutton, San Antonio, J. Lawhon, 696, 1, Sec. 10, 2475 ft from e and 1488 ft from s line.

LIBERTY COUNTY — Houtex Prod. Co., Houston, Wilhite, 5, 2 , S 125, H&TC sur, 50 ft from n and 200 ft from w line. Gulf, Houston, S. E. Ezzell, 150, 1, L. Barron sur, 300 ft from n and e lines; E. W. Boyt, 621, 7, A. Allen sur, 3102 ft from e and 2579 ft from s line.

LOVING COUNTY — California Co., Midland, Reagan, 480, 2, S 84, B 1, W&NW sur, 440 ft from n and w lines of sec.

MONTAGUE COUNTY—The Texas Co., Wichita Falls, R. W. Cunningham B, 61, 2, L. Norton sur, 150 ft from s and w lines. Bridwell Oil Co., Wichita Falls, J. S. Dennis, 353, 6, F. Robertson sur, 2190 ft from w and 426 ft from s line; H. F. Wilton, 200 1, R. Scott sur, 1980 ft from s and 175 ft from w line sur.

MITCHELL COUNTY — California Co., Midland, W. L. Foster, 640, 9, S 6, B 29, T&P sur, 1653 ft from w and 2307 ft from s line. E. Morrison, 640, 19, S 27, B 28, T&P sur, 600 ft from n and 1250 ft from w line sec.

MEDINA COUNTY—Kirby Pet. Co., Houston, J. M. Fusselman, 150, 1, S 208, H. Castro sur, 150 ft from s and e lines.

NAVARRO COUNTY — E. W. Bateman, Fort Worth, Texas, G. R. McGowan, 160, 1, M. Webb sur, 3000 ft from e and 250 ft from s line.

PECOS COUNTY — Rowan & Tong, San Antonio, J. M. McDonald, 640, 4, S 46, B 12, H&GN sur, 155 ft from n and w lines of ne. McCarty Oil Co., Wichita Falls, A. A. Gray, 330, 2, S 591, B 105, GC&SF, 150 ft from s and 450 ft from w li sw nw. Continental, Wichita Falls, University, 640, A7, S 6, B 17, 1650 ft from n and 330 ft from w li sec. M. H. Black et al, Grand Falls, Pecos Fee, 80, 1, S 34, B 3, H&TC sur, 1470 ft from nw and 1170 ft from sw li sec. California Co., Midland, E. Fromme, 640, 1, S 106, B 10, H&GN sur, 330 ft from n and e lines of sec. Mid-Kansas Oil & Gas Co., Tulsa, Okla., M. A. Smith, 640, 9, S 31, B 194, GC&SF sur, 250 ft from s and w lines.

PALO PINTO COUNTY—Root & Rhodes, Eastland, M. B. Costello, 116, 1, R. R. Williams, 160 ft from w and 450 ft from n line. Lone Star, Dallas, J. W. Watson, 1, S 13, B 3, T&P sur, 1980 ft from n and 1780 ft from w li sec.

REFUGIO COUNTY—Mission Drilling Co., San Antonio, Holmes, 2½, 1, Refugio, 150 ft from s and e lines of Blk. 112. J. J. O'Brien, 12½, 1, Refugio sur, 150 ft from s and w lines. W. L. Pearson Properties, Inc., Corpus Christi, Texas, T. D. Wood, 63, 1, Refugio, 150 ft from s and w lines of lot 17. Traylor Rutherford Oil Corp., Refugio, Cable 3, 4, No. 4, Refugio sur, 237 ft from n and 150 ft from e line Blk. 17.

RAINS COUNTY — W. E. Everett, Fort Worth, J. Franklin, 96, 1, J. Christian sur, center.

SCURRY COUNTY—R. Wells, Snyder, R. Strayhorn, 72, 1, S 154, B 3, H&GN sur, 170 ft from ne and 410 ft from s line.

SHACKLEFORD COUNTY—A. D. Robinson, Dallas, Colman, 160, 3, 373, TE&L sur, 300 ft e of No. 2. Callihan & Carter Dev. Co., Albany, J. H. Nail, 80, 1, S 134, E. T. Ry.

sur, center. Hart & Gist Drilling Co., Albany, J. H. Sammons, 80, 1, S 22, Blind Asy. sur, 1050 ft from e and 350 ft from s li nw. Roeser & Pendleton, Inc., Albany, Scott, 640, 3, S 202, E. T. Ry. sur, 150 ft from s and e lines. C. D. Watts, Moran, Broyles, 60, 7, S 16, LAL sur, 300 ft e of No. 6. Lillian D. Hill, Mineral Wells, A. McLemore, 40, 1, S 2, H&TB sur, 150 ft from s and w lines of ne of se. F. W. Holder, Breckenridge, B. Brooks, 160, 1, S 55, Blind Asy. sur, 150 ft from s and e lines of sw. Humble, Cisco, S. Lazaraus, 640, 1, S 78, B 13, T&P sur, 700 ft from s and 2000 ft from w li sec.

THROCKMORTON COUNTY—Dr. G. W. Williams, Woodson, Fee, 15, 1, 980 TE&L sur, 150 ft from n and w lines. C & B Oil Co., Mineral Wells, H. .H Horton, 80, 2, 915, TE&L sur, 450 ft from e and 150 ft from s li sec. Mack Hays, Albany, G. E. Wright, 160, 1, S 279, BBB&C sur, 300 ft from n and 450 ft from e line. W. S. Taylor, Woodson, Ellison, 40, 1, S 691, TE&L sur, 150 ft from n and e lines. C. C. Williams, Jean, J. M. Hefley, 80, 2, 2233 TE&L sur, 150 ft from s and w lines.

TRAVIS COUNTY—Fritz Fuchs, ,Taylor W. O. W. Fuchs, 123, 1, Wm. Caldwell sur, 300 vs. from nw and 477 vs from sw li.

VAN ZANDT COUNTY—Pure Oil Co., Ft. Worth, J. A. Bracken, 69, 1, Jno. Walling sur, 750 ft from e and 315 ft from s line; E. B. Tunnell, 28, 1, M. Gross sur, 34 ft from n and 50 ft from w line; R. L. Wells, 41, 4, M. Gross sur, 225 ft from w and 639 ft from s line; R. V. White, 25, 1, Jno. Walling sur, 200 ft from w and 250 ft from s line. S. H. White, Van, E. York, 4, 1, Jno. Walling sur.

VICTORIA COUNTY — The Texas Co., Houston, A. M. McFaddin, 1, H. Benny sur, 1550 ft from n and e lines of survey.

WICHITA COUNTY—Everts Drilling Co., Wichita Falls, C. W. Moeller, 40, 1, Waggoner Co. sur, 150 ft from e and 450 ft from s li Blk. 291. J. H. Cotton, Wichita Falls, Chilson, 22, 1, B 3, DCSL sur, No. 4, 150 ft from s and e lines. Schlaffke & Blair, Electra, W. B. Honaker, 48, 1, C&M Blk. 1, 750 ft from n and 165 ft from w line. Mid-Continent Holding Corp., Wichita Falls, Burnside, 38, 7, J. M. Sharp sur, 150 ft from n and e lines. Rhoden Oil Co., Wichita Falls, J. Cabe, 30, 1, J. Cole sur, 150 ft e of center of w line. A. T. Wolfe, Wichita Falls, Kemp & Kempner, 80, 7, B 57, Roesch sur, 300 ft e of No. 6. Jeffers, Gilchrist & McGaughey, Burkburnett, S. A. Waits, 100, 4, BBB&C sur, 300 ft s of No. 1. Mogren & Anderson, Electra, E. E. Goetze, 111, 23, SA&MG sur No. 2, 300 ft s of No. 10. J. C. Cunningham, Graham, Goetze, 40, 3, GC&SF sur, 150 ft from s and w lines. 4, 300 ft n of No. 3. Kimbell & Bostic, Burkburnett, S. L. Denny, 44, 7, B 27, W. M. Graves sur, 300 ft e of No. 6. Virginia Oil Assn., Fort Worth, Burnett, 51, 29, S 2, J. F. Terry sur, 300 ft s of No. 4. N. J. James, Mangum, Okla., N. R. Temple, 51, 1, B 9, PPCSL sur, 150 ft from n and 450 ft from w line. King Royalty Co., Wichita Falls, J. W. Ferguson, 40, 21, J. W. Robertson sur, 995 ft from w and 150 ft from s line. McCarty Oil Co., Wichita Falls, Kemp & Kempner, 35, 36, B 55, WVFK sur.

WASHINGTON COUNTY—Mid-Kansas Oil & Gas Co., Tulsa, Okla., M. Gaskamp, 92, 1, B. F. Saunders sur, 200 ft from n and e lines.

WEBB COUNTY—O. W. Killam, Laredo, A. M. Bruni, 160, 2, B 23, Albercas sur, 575 ft from n and 871 ft from e line.

WILBARGER COUNTY—Phillips, Bartlesville, Okla., W. T. Waggoner, LL, 40, 1, S 30, B 4, H&TC sur, 200 ft from s and e li nw nw. Grayback Dev. Corp., Wichita Falls, W. T. Waggoner, 60, 5, S 50, B 2, H&TC sur, 150 ft from e and 450 ft from s li sec. The Texas Co., Wichita Falls, W. T. Waggoner A385, S 5, B 13, H&TC sur, 990 ft from n and 380 ft from w li sec. Staley, Wynne Co., Wichita Falls, W. T. Waggoner, 4C, R 4, S 26, B 4, H&TC sur, 100 ft e of No. 3. Moore & Texas Co., Wichita Falls, H. H. Rhoads, 160, 1, S 79, Wag. Col. sur, 150 ft from n and e lines.

WARD COUNTY—Atlantic, Dallas, J. B. Bennett, B, 80, 1, S 16, B 34, H&TC sur, 900 ft from n and w li sec. Gulf, Fort Worth, G. W. O'Brien, 640, 10, S 6, B F, G&MMB&A sur, 360 ft from w and 322 ft from s li sec; 11, 993 ft from w and 330 ft from s li sec; 12, 1655 ft from w and 330 ft from s li sec.

WILLIAMSON COUNTY—J. L. Collins & Co., Corsicana, M. V. Lawrence, 27, 4, S. Miller sur, 300 ft s of No. 3. Hunt & McKamey, Georgetown, Wileman, 135, 2, W. Stubberfield sur, 157 ft from s and 457 ft from e line. E. Marts, Dallas, T. P. Simmons, 17 1B, S. Miller sur, 150 ft from s and 750 ft from e line, Ed Mead, Taylor, B. Lawrence, 5, 1, S. Miller sur, 150 ft from n and e lines. Anderson & McMurray, Fort Worth, J. C. Kilgore, 8, 1, S. Miller sur, 150 ft from s and w lines. W. D. Anderson. Fort Worth, M. V. Lawrence, 20, 3, S. Miller sur, 150 ft from s and w lines. E. R. Marts, Dallas, T. P. Simmons, 17, 2B, S. Miller sur, 150 ft from s and w lines.

YOUNG COUNTY — King Royalty Co. & Heydrick, Wichita Falls, W. F. Bailey, 40, 2, 165 TE&L sur, 300 ft s of No. 1. T. L. Wheeler, Wichita Falls, Gregg, 60. 2a, B 17, YCSL sur, 150 ft from w and 450 ft from s line. C. H. Featherstone, Wichita Falls, School 1, Bloodworth No. 2 sur, 153 ft from n and e lines of blk 2. C. W. Clark, Dallas, E. C. Farrow, 100, 1, 283 TE&L sur, 150 ft from w and 400 ft from n line. L. A. Long, et al, Graham, R. M. Williams, 80, 1C, R. O. Wolfork. R. N. Hamilton, Wichita Falls, R. J. Johnson, 136, 1, 2946 TE&L sur, 1800 ft from n and 480 ft from e line. O. H. Simpson et al, Fort Worth, B. P. Larimore, 40, 1, 2247, TE&L sur, 450 ft from w and 150 ft from s line. Cunningham & Lynch, Graham, Kisinger, 40, 5, Jno. Connor sur, 40 ft e of No. 1. E. R. Riggs, Graham, B. P. Larimore, 40, 6, 2247, TE&L sur, 300 ft s of No. 5; 5, 150 ft from n and 450 ft from w line. C. J. Kleiner, Cisco, Belknap, 40, 1, 2248, TE&L sur, 150 ft from n and w lines of sw of sw. J. C. Cunningham, Graham, C. W. Johnson, 40, 4, E. W. Sargent sur, 600 ft e of No. 1.

ZAPATA COUNTY—Moore & Moore, Laredo, A. G. Flores, 40, 2, B 151, C. Redondo sur, 150 ft from s and e lines. Penny Prod. Co., Laredo, Trevino, 40, 1, Por. 4, B 6, 300 ft from se and 200 ft from ne line. Nordan & Morris, Laredo, E. Trevino, 40, A2, S 55, B 6, 150 ft from n and w lines. Gurierrez, 532, 2, No. 4, 450 ft from ne and 4263 ft from se line; 1, 450 ft from e and 4410 ft from s line. O. & A. Oil Co., Laredo, S. Garcia, 73, 2, No. 3, Comitas sur, 450 ft from nw and 150 ft from ne line. W. R. Shankle, Laredo, M. Trevino, 40, 2, S 65, B 14, 150 ft from s and e lines. Trinity Drillers Inc., San Antonio, E. Trevino, 40, 1, S 65, 150 ft from n and w lines of Bk 10.

ANSWERS

to questions found on page 66

1. "Oil in paying quantities" may mean: oil that can be marketed in such manner as to offset the expense of drilling the well or wells producing it and the additional expense of operation; or, it may exclude the cost of drilling when the lessor is seeking to take the premises from the possession of the lessee on the ground that the well is not producing oil in paying quantities; or it may mean in paying quantities to the lessee, to be determined by him in the exercise of good faith; or it may involve paying in sufficient quantities to pay a reasonable profit on the sum necessary required to be expanded including the cost of drilling, equipping and operating of the well.

2. The elements of a fault are: dip, or the angle between the fault plane and the horizontal; strike, the direction of the intersection of the fault and horizontal planes; throw, the displacement measured along the strike of the fault plane. There are normal faults, showing evidence of tensional forces; and reverse faults, showing evidence of compressional forces.

3. Kerogen is that substance present in oil shales from which petroleum is obtained by destructive distillation. It is an organic compound and represents an intermediate product in the formation of petroleum from organic debris.

4. The carbon black industry was started in New Cumberland, West Virginia, in 1872 when the first commercial plant was built. It has grown to 71 plants producing 366,443,000 pounds of black in 1929, with an average yield of black of 1.39 pounds per thousand cubic feet burned. Total value of the product as of 1929, was $18,721,000; and a total of 264,107,000,000 cubic feet of gas was burned.

5. If the pin has broken off, the stem sometimes can be fished out with either a collar grab or a collar socket. The grab is generally used when tools are known to be free and there is sufficient annular space between the collar and the wall of the hole to admit the tool. When the tools are fast, or the clearance between the collar and the wall of the hole is small, the collar socket is employed.

6. Before coring became common practice, it was thought that accurate well logs were more easily obtained from cable tool drilled wells. Now, however, rotary drilled wells may be cored continuously, providing highly accurate information as to formations passed through.

7. It is good practice to use spiders and slips when under reaming or handling long strings of casing, instead of the lower elevator. This device will catch and hold the casing if it should slip or if a coupling should break or pull off.

8. If the limestone or sandstone has 15 per cent of voids and is thoroughly saturated, it would contain approximately 15 per cent of its volume in oil, or 15 cubic feet of oil per hundred cubic feet of sand (7.5 gallons per cubic foot). Thus an oil sand 100 feet thick, covering the space of one acre (43,560 square feet) would contain 116,678 barrels. This is obtained by dividing the figure represented by the number of square feet multiplied by the figure 7.5 gallons by 15, by 42 gallons, or the equivalent of one barrel.

9. Stopcocking is a production method for controlling gas pressures in oil wells by keeping the well closed in and the gas confined except during stated intervals when the oil is flowed or pumped.

10. Jamin effect is the resistance offered to flow by alternating globules of liquid and bubbles of gas in channels of capillary dimensions.

WILDCATS FROM ALL SECTIONS

WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
TAYLOR COUNTY—		
Mid-Continent Pet. Corp., Lindsey 1	80	2414

ANDREWS COUNTY—Deep Rock Oil Co. et al's A. R. King 1, elev 3206 ft, top salt 1698 ft, re-run tubing and est 450 bbls daily 4335-4454 ft; B. L. King 1, elev 3196 ft, top salt 1700 ft, sulphur water 4390-95 ft, dr 4450 ft; W. J. Mathis 1, elev 3193 ft, top salt 1730 ft, showing oil, dr 4505 ft. Fuhrman Pet. Corp.'s Ford 1, elev 3186 ft, dr by junk 2960 ft. Humble O&R Co. & Penn Oil Co.'s Wilson 1, dr 1640 ft. Maer-Martin & Kell's Mrs. A. Meadors 1, cellar.

BREWSTER COUNTY—Trans-Pecos O&G Co.'s Jones 1, elev 3073 ft, sd 2345 ft.

COKE COUNTY—Arkansas Fuel Oil Co. & Dixie Oil Co.'s Stepp 1, dr 2950 ft. Lipan Oil Co. & Vernon O&G Co.'s Rawlings 1, ur cas 3278 ft.

CONCHO COUNTY—Beasley et al's Sam Waring 1, machine. A. W. Turner et al's Brosig 1, co 780 ft.

CRANE COUNTY—Cranfill Bros. Oil Co. & Gulf's Tubbs 1, elev 2526 ft, top salt 505 ft, top white limes 2445 ft, making 4 mil ft gas, dr lime 2815-3405 ft, with salt water from above gas. C. C. Duffey et al's Cowden 1, Sec. 31, elev 2365 ft, top salt 535 ft, top lime 2145 ft, dr 2175 ft. Sun Oil Co.'s First State Bank 1, sp.

CROCKETT COUNTY — California Co.'s Shannon 3, rig. Dolman & Moore's Perner 1, rig. Magnolia Pet. Co.'s Hoover 1, elev 2412 ft, top salt 660 ft, top lime 1890 ft, dr 4635 ft. Gordon Schaul et al's Barnscorew 1, machine.

CULBERSON COUNTY — Grisham-Hunter Corp.'s Garron 1, sd hfw 2514 ft. Hickey et al's Finley 1, sd hfw 2907 ft. W. L. Kornrumpf et al's Garron 1, dr 665 ft.

ECTOR COUNTY—C. P. Davis et al's Hendrick 1, elev 2878 ft, top salt 1640 ft, sd 3665 ft. Penn Oil Co. & Devonian Oil Co.'s Goodman 1, trace oil 1030 ft, dr 1085 ft. Southern Crude Oil Pur. Co.'s Cowden 1, elev 3047 ft, co 900 ft. H. F. Wurtz et al's E. A. Ibbetson 1, set cas 511 ft.

EDWARDS COUNTY—Phillips Pet. Co.'s Holman 2, co 3710 ft.

EL PASO COUNTY — Layne-Texas Co.'s W. D. Malone 1-A, dr 2840 ft.

FISHER COUNTY—Cranfill-Reynolds Co.'s Barrett 2, sp; Cooper 1, sp; Flannigan 2, rig. Midwest Explo. Co.'s Decker 1, dr 310 ft. Roeser-Pendleton, Inc.'s Steele 1, dr 1315 ft. Texas Co.'s Teagarden 1-A, dr 1575 ft.

GAINES COUNTY — Humble O&R Co.'s Carswell 1, dr 1790 ft.

GARZA COUNTY — H. C. Cate & Mel Richards' Stoker 1, dr 1930 ft.

GLASSCOCK COUNTY — California Co.'s Jones 1, top lime 2170 ft, dr 2893 ft; Baker 2, dr 1570 ft. FHE Oil Co.'s Sprinkle 1, dr 1950 ft. Ed. Timberlake-Snyder et al's Meek 1, elev 2575 ft, top lime 2670 ft, sd 2956 ft. World Oil Co.'s Edwards 1, elev 2538 ft, top salt 1490 ft, dr 1780 ft; McDowell 3-C, elev 2537 ft, sp.

TOM GREEN COUNTY—Phillips Pet. Co. et al's Jennings-Gulden 1, fsh 2560 ft.

HOWARD COUNTY—Meriwether Oil Co.'s Smith 1, elev 2590 ft, sd 2540 ft. Owen-Sloan Oil Co. et al's Flowers 1, dr hfw 3180-3425 ft. Sinclair O&G Co.'s Montgomery 1, co after shot 230 qts 2452-2570 ft, with 1700 ft oih.

HUDSPETH COUNTY — California Co.'s University 1, elev 5109 ft, sd trace oil 4697 ft.

IRION COUNTY — Carl Cromwell et al's Nutt 3, dr 515 ft; Tankersley 1, machine. Kingwood Oil Co. et al's Sugg 1, sd 7818 ft. Straughn & Texannati Oil Co.'s Nutt 2, dr 1060 ft. P. H. Williams et al's Ashe 1, sd 8900 ft. F. E. Webb et al's Ashe 1, machine.

JONES COUNTY—Gibson-Johnson et al's Hudspeth 1, sd 1100 ft. Mid-Tex O&G Co.'s King 1, dr 2015 ft. Phillips Pet. Co.'s Teaff 1, dr 2830 ft. Shaheen & Prairie O&G Co.'s King 1, dr 550 ft.

LOVING COUNTY—California Co.'s Reagan 2, rig. Dixie Oil Co. & Phillips Pet. Co.'s Johnson 1, elev 2819 ft, top salt 992 ft, dr 2615 ft. Hadlock et al's Russell 2, dr 750 ft. Eppenauer & Young's Allen 1, dk. Lockhart & Co.'s Bowen-Wells 3, elev 2719 ft, top salt 763 ft, sd 3385 ft; Hubbard 6, rig; Lepp 2, sp and sd. Miller-Burge & Healey's Chapman 1, rig. Joe Rush et al's Jim Wheat 1, lcn.

MENARD COUNTY—Panhandle Ref. Co. & Jas. Duffy's G. P. Eckhardt 2, dr 1240 ft. L. G. Priest et al's Sorrells 1, dr 2050 ft.

MIDLAND COUNTY—Pure Oil Co.'s J. E. Hutt 1-A, top salt 1750 ft, dr 3815 ft.

PECOS COUNTY—California Co.'s E. J. Fromme 1, machine. E. L. Chapman et al's Street 1, elev 2653 ft, sd 2200 ft. Crosby Prod. & Roy. Co.'s Cordova 1, elev 2320 ft, top salt 725 ft, sd 2080 ft. Fisher & Lowrie's Webb 1, top salt 2455 ft, dr 2630 ft. Humble O&R Co.'s Kokernot 1, dr 730 ft. Hussman Oil Co.'s Estes 1, sd 1680 ft. Independent O&G Co. & Buell-Hagan's Jasper 1, sd making oil and gas, td 1585 ft; Pecos Valley 1-A, dr 320 ft. C. S. Messinger et al's Byrne 2, dr 390 ft. Mauch & Krogen's Holmes 1, fsh 2630 ft. J. R. Miller et al's Bennett 1, sd 315 ft. J. D. OMara et al's Bennett 1, sd with oil and water in hole 1089-1190 ft. Oregon Oil Corp.'s Yates 2, top salt 710 ft, dr 840 ft. O. J. Perren et al's Eaton 2, sd 1335 ft; Jackson-Pure 1, sp and sd. R. W. Porpus et al's State 1, sp and sd. Pure Oil Co.'s Harrison 1, rig. Riser & White's W. D. Riser 1, lcn. Sides & Cloyd et al's Blackstone-Slaughter 1, top salt 860 ft, sd 2065 ft. Southern Crude Oil Pur. Co.'s Eason 2, elev 2434 ft, dr 1020 ft. Texas Co.'s Wright 1, top salt 1940 ft, coring 3451 ft. Transcontinental Oil Co.'s University 1, fsh 4920 ft. W. F. Walsh et al's Henderson 1, elev 3325 ft, dr 2305 ft. Monte Warner et al's Webb 1, lcn.

PRESIDIO COUNTY — L. C. Brite Prod. Co.'s L. C. Brite 4, dr 1652 ft.

REAGAN COUNTY—Big Lake Oil Co.'s University 179, dr 3585 ft; University 1-C, flow 509 bbls 52.8 gravity oil and 9,721,000 ft gas, td 8668 ft; University 2-C, dr 8313 ft; University 3-C, flow 66 bbls oil and 2,876,000 ft gas, co to deepen 8535 ft; University 4-C, flow 45 bbls oil and 4,699,000 ft gas, milling on junk at 8220 ft; University 5-C, dr 298 ft. Group One Oil Corp.'s University 3-B, showing oil and gas, dr 8533 ft. Kemrow & W. C. Beasley et al's Sawyer 1-A, dr 1060 ft. Westyde Inv. Co.'s J. H. Scott 1, top salt 1250 ft, dr 1840 ft.

REEVES COUNTY—California Co.'s Kloh 1, dr shale and gravel 1475 ft. Slack & Fink's Brooks-Huling 1, elev 3116 ft, sd showing oil and gas, td 1860 ft.

RUNNELS COUNTY — Boyce & Lamar's Lange 1, elev 1844 ft, set cas 2607 ft.

SCHLEICHER COUNTY — Delmar Oil Co.'s O'Harrow 1, dr 3620 ft. Phillips Pet. Co. et al's J. A. Whitten 1, elev 2333 ft, showing oil and gas 6300-37 ft, dr 6790 ft. Munger-Wilson Oil Co.'s Page 1, elev 2270 ft, fsh 4912 ft. Paul Teas & Walter Gant's Allison 1, sd 1880 ft. J. D. Wesner et al's W. R. Nicks-Ratliff 1, rig.

SCURRY COUNTY—J. G. Armand & Camp Springs O&R Co.'s Quinn 1-A, elev 2316 ft, sd 4367 ft. D. H. Byrd & H. A. Harmon's Murphy 1, fsh bit 3320 ft. Pender O&G Co.'s Davis 1, fsh 4400 ft. Transcontinental-Vacuum Oil Co.'s Peckham 1, elev 2155 ft, dr 2375 ft.

TAYLOR COUNTY—W. G. Clark & Humble O&R Co.'s Kendall 1, sp and sd. Condor Pet. Co.'s Stoker 1, dr 3015 ft. Eastland Oil Co. & J. B. Dunigan's Teaff 1, dr 1350 ft. Gibson & Johnson & Owen-Sloan Oil Co.'s Bingham 1, sd 2412 ft. J. B. Jameson et al's Webb 1, elev 1905 ft, sd 5943 ft. H. B. Herring-Hucony Gas Co. et al's Richie 1, sd 1080 ft.

TERRELL COUNTY—Big Bend Oil Corp. & F. A. Book's Bassett 1, elev 2396 ft, dr 1990 ft. Transcontinental's Good 1, elev 2405 ft, sd 4372 ft.

TERRY COUNTY — Penn Oil Co. Unit Plan's P. Carlisle 1, elev 3275 ft, top salt 2260 ft, stdz 3322 ft.

VAL VERDE COUNTY—O. O. Owens et al's Mills 1, sd 5757 ft. Phantom Oil Co.'s Ingram 1, fsh 3035 ft.

WARD COUNTY—Atlantic Oil Prod. Co. & Delmar Oil Co.'s Hayzlett 7, top salt 740 ft, dr 1970 ft. Gulf Prod. Co.'s Hutchings 4, dr 1575 ft; O'Brien 8, flowing 180 bbls and co 2592-2850 ft; O'Brien 9, top salt 1025 ft, dr 2565 ft; O'Brien 10, dr 410 ft; O'Brien 11, dr 230 ft; O'Brien 12, dr 135 ft. R. F. Owen et al's Johnson 1, sd 380 ft. Sid Richardson et al's O'Brien 3, top salt 1142 ft, dr 1725 ft. Shipley Oil Corp.'s Monroe 1-A, dr 1160 ft. J. E. Smith et al's Clements 1, top salt 745 ft, making oil and gas at 2130 ft, dr 2225 ft. Sturm & Paine's Cummons 1, elev 2443 ft, top salt 780 ft, sd hfo 2350 ft. Sun Oil Co.'s Sealy 1, elev 2680 ft, top rustler 2074 ft, sd 2590 ft. Tex-Oil Production Co.'s Redman 1-A, sd after shot 5077 ft.

WINKLER COUNTY—Champion - Winkler Oil Corp.'s Campbell 1, sd 3880 ft. Simms Oil Co. & Atlantic Oil Prod. Co.'s Sealy 1, sd 450 ft. Jeffrey et al (was V. T. Bolin's) Brown 2, co to deepen, td 2832 ft.

ABBREVIATIONS

NOTE—The following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn—abandoned; bbls—barrels; b.s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in.—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.

Get Through Gas Sand in Sand Draw Test

Rawlins, Wyoming.—After having made four previous attempts, Producers & Refiners Corporation has been successful in going through the big gas sand in the Sand Draw field. Its No. 10 on 14-32-95 is now rotary drilling in hard sand at 2745 feet. This success comes at the end of a 10-year effort on the part of major companies to drill through the gas sands of this field, into expected oil production in the deeper horizons. There are three gas sands in this field, the pressure and cavings from one or the other always spelling failure for the deep test.

CENTRAL EAST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
FREESTONE COUNTY—		
O. W. Killam et al, Edwards 1....	*	3854

ANDERSON COUNTY—Humble O&R Co.'s J. C. Collier 1, John Little sur, top Pecan chalk 3110 ft, top Austin chalk 3656 ft, dr 4155 ft. Sun Oil Co.'s Bowers-Maier 2, E. G. Meyers sur, top Pecan chalk 1108 to 1227 ft, dr 1490 ft. Sun-Humble-Navarro Oil Co.'s A. Gardner 1, N. Salisar sur, elev 406 ft, Pecan chalk 1860-1960 ft, dr 2875 ft.

BOWIE COUNTY—Lee Timberlake et al's J. Tidwell 1, Jas. Eskell sur, dr 920 ft.

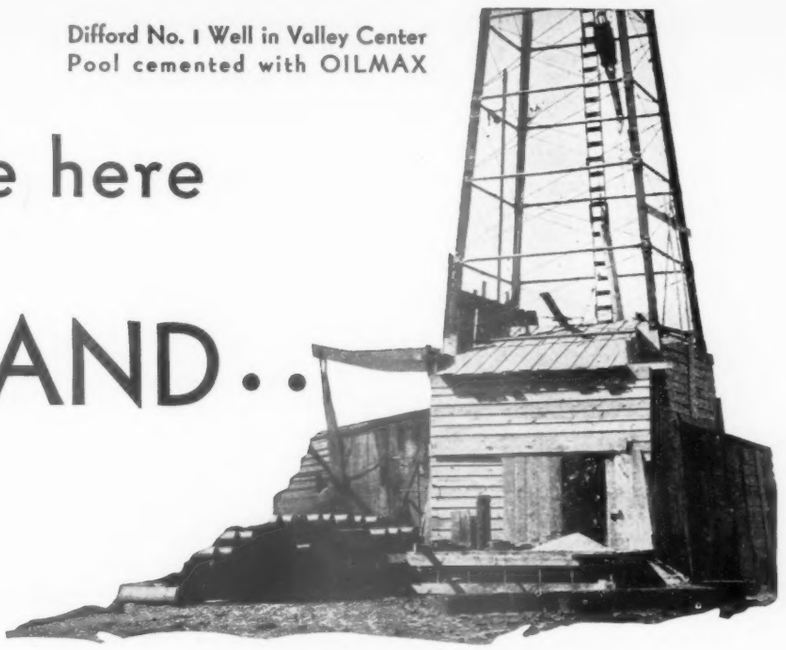
CAMP COUNTY—McDonald Bros. et al's B. D. Tillery 1, J. H. Murphy sur, lcn.

DELTA COUNTY—Hazel-Curtis Oil Co.'s T. J. Irwin 1, B. Williams sur, sp and sd.

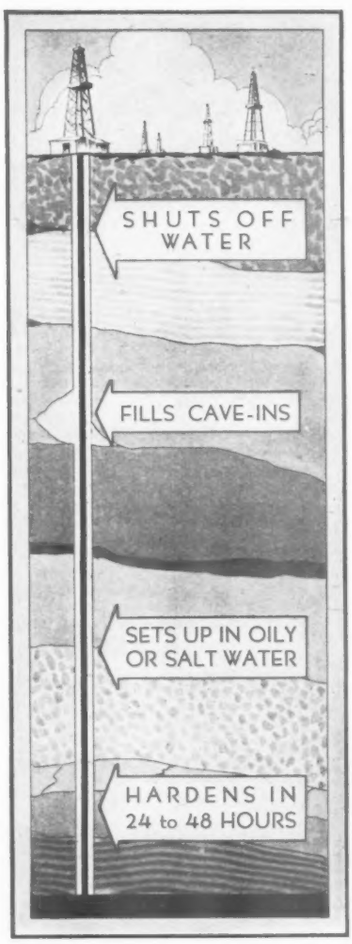
ELLIS COUNTY—G. C. Foster & S. C. Richardson's Moise-Cerf 1, LaPena sur, elev 440 ft, Austin chalk 531 to 814 ft, sd 2140 ft. The Triangle Corp.'s W. B. Hale 1, dk.

FANNIN COUNTY—Ed. V. Parsons et al's

Difford No. 1 Well in Valley Center Pool cemented with OILMAX



The trouble here was QUICKSAND . . . but OILMAX did the job QUICKLY and ECONOMICALLY



ON the Difford No. 1 Well in Valley Center, Kansas, OILMAX again demonstrated its ability to successfully cement a job under treacherous underground conditions. In spite of quicksand, OILMAX hardened quickly and evenly. In less than 72 hours drilling was resumed. No long delay . . . no expensive uncertainty.

OILMAX Cement **is made for difficult jobs.** It gets as hard in 24 hours as ordinary Portland Cement in 10 days. It requires no admixtures or accelerators. It is water-tight . . . non-shrinking . . . always hardens evenly.

Cementing delays and failures are expensive. Give your well the **quickest and best protection possible . . . cement** with OILMAX.

Obtainable thru dealers.

Made ONLY by
ASH GROVE LIME & PORTLAND CEMENT CO.
KANSAS CITY, MO. Founded in 1882 OMAHA, NEBR.
District Sales Office: OKLAHOMA CITY, OKLA. Phone 2-0642

OILMAX CEMENT

SPECIALLY PROCESSED for OIL WELL CEMENTING

Morgan 1, J. E. English sur, elev 668 ft, sd 3052 ft.

FRANKLIN COUNTY—Harper & Byers' A. J. Laws 1, D. G. Rogers sur, rig.

HENDERSON COUNTY—H. B. Ashburn et al's T. E. Terry 1, Arron York sur, elev 397 ft, sd 2425 ft. E. L. Chapman et al's Cade 1, Simon Weiss sur, elev 340 ft, fsh 3110 ft. Cranfill-Germany, Inc.'s C. C. Starr 1, G. Acosta sur, dk. Shell Pet. Corp.'s S. T. Stephens 1, I. D. Owen sur, elev 510 ft, Pecan chalk 2050-2129 ft, Austin chalk 2916-3110 ft, top Woodbine 3164 ft, top Georgetown lime 3600 ft, sd to install heavy rotary 4366 ft. Geo. L. Pace et al's S. Anthony 1, J. M. Betram sur, dk.

KAUFMAN COUNTY—Roy H. Sowell et al's A. H. Ables 1, E. Ables sur, sd 525 ft.

LIMESTONE COUNTY—Haley-Heemann's Wilkes 1, J. Breeding sur, elev 421 ft, dr 1225 ft.

NAVARRO COUNTY—Bateman Oil Corp.'s McCowan 1, Morris Webb sur, rig. Tidal Oil Co. & Atlantic's T. Longbotham 1, Turner sur, elev 452 ft, top Austin chalk 2850 ft, dr chalk 3040 ft. Wheelock & Collins' W. D. Castle 1, Abner Matthews sur, rig. Navarro Oil Co.'s Matthews 2, A. J. & P. M. Smith sur, fsh 1365 ft. Young et al's J. H. Farmer 1, Robt. Finley sur, sp and sd.

RAINS COUNTY—D. H. Byrd et al's J. D. Hill 1, F. McMahan sur, elev 425 ft, Pecan chalk 2348-2546 ft, fsh 3725 ft. Everett & Morrison's J. Franklin 1, John Christian sur, sp and sd.

RED RIVER COUNTY—E. L. Chapman et al's Morris Guest 1, S. Lakin sur, sd 1325 ft.

RUSK COUNTY—E. M. Joiner et al's Bradford 3, elev 390 ft, Pecan chalk 2590-2774 ft, dr 3260 ft. Moss et al's Matthews 1, co 2330 ft.

SMITH COUNTY—E. L. Chapman & Sutton's J. M. Hammon 1, Jas. Reid sur, elev 380 ft, Pecan chalk 2680-2912 ft, sd 3700 ft. McElreath & Suggett's J. Gillian 1, J. C. Robertson sur, lcn. Owen-Sloan Oil Co. & R. H. Davis' J. H. Starnes 1, J. W. Allen sur, elev 417 ft, sd 1353 ft. Winona Oil Co.'s Morgan Freeman 1, A. J. LaGrone sur, rig.

TITUS COUNTY—Deep Rock Oil Co. et al's First Nat'l Bank 1, H. W. Cobb sur, top Pecan chalk 2406 ft, dr 2560 ft.

VAN ZANDT COUNTY—Bethel Oil Co. (B. P. Harvey's) P. Smith sur, chalk 2555-2790 ft, co 3708 ft. Broderick & Calvert's M. F. Shirley 1, (2.07-acre lease), lcn. Century Oil Co.'s Mrs. S. A. Stewart 1, A. J. Harsley sur, top Pecan chalk 2485-2570 ft, dr 2935 ft. E. L. Chapman et al's Chas. Wolverton 1, Wm. James sur, dk. Dic Cooper et al's Elliott 1, W. H. Bundy sur, dk. Cranfill-Reynolds Co.'s Coker-Ledbetter 2, sd 1270 ft. Warren T. Daniel et al's F. Cumby 1, John Wright sur, elev 457 ft, Pecan chalk 1690-1730 ft, sd 2275 ft. Dennis Oil Corp.'s C. W. Morris 1, C. L. Morrison sur, elev 496 ft, dr 3070 ft. Grand Saline Oil Co.'s W. J. Carnes 1, S. P. Ry. sur, Pecan chalk 2314-2505 ft, dr 2755 ft. Humble O&R Co.'s Mrs. E. E. Carroll 1, elev 472 ft, Austin chalk 2551-2749 ft, running cas to test sand 2819 ft. Kraft & Kelsey's Wylie Enas 1, J. Prado sur, dk. Manley-Sprinkle-Evans' B. C. Andrews 1, M. Neal sur, elev 536 ft, sd 3535 ft. L. G. Priest et al's Blanche Blewett 1, E. Porter sur, elev 610 ft, sp and sd. L. B. Pruitt & Imperator Oil Co.'s G. W. Carter 1, (15.87-ac), John Walling sur, elev 437 ft, Pecan chalk 1652 to 2007 ft, Austin Chalk 3063-3134 ft, dr 3380 ft. Texas Chief Oil & Royalty Co.'s J. P. Foster 1, F. Montgomery sur, dr 615 ft. Vanco Oil Corp.'s Wages 1, dk. Van Zandt Oil & Dev. Co.'s Sharp-Robinson 1, J. B. Ybarbo sur, elev 372 ft, top Pecan chalk 2764 ft, top Austin chalk 4116 ft, dr 4310 ft.

VAN FIELD—Pure Oil Co.'s M. R. Bolin 2, dr 2152 ft; J. A. Bracken 1, dr 2476 ft; A. D. Clark 1, (9-ac), cem cas 307 ft; V. T. Davis 1, rig; Leonard 2, dk; Miller 1, cem cas 306 ft; Swain 1, cem cas 2414 ft; Thompson 5, completing 2940 ft; Thompson 7, dk; R. L. Wells 4, (41-ac), coring 2601 ft; Wells 5, dk; Wells 6, cem cas 301 ft; R. L. Wells & A. G. Tunnell 1, completing 2952 ft; L. M. Brawner 1, dk; A. D. & Preston Clark 1, (9-ac), dk; E. V. Tunnell-Townsite 1, (.28-ac), dr 960 ft; White 1, completing 2951 ft. Sun Oil Co.'s Wallace 1, dr chalk 2495 ft. The Texas Co.'s Bracken 1, dr 175 ft; R. A. Tunnell 2, dr 1670 ft; White 1, dr 2100 ft.

WOOD COUNTY—Big Indian Oil & Dev. Co. & Tidal Oil Co.'s R. J. King 1, Wm. Barnhill sur, elev 480 ft, Pecan chalk 2626-2875 ft, sd 4001 ft. Geo. L. Pace et al's B. G. Dickey 1, J. C. Clark sur, elev 458 ft, Pecan chalk 2849-2985 ft, sd 3710 ft.

EAST TEXAS

Completion

Company, Well and Location	Initial Production Bbls.	Depth
MARION COUNTY—		
H. L. Hunt, Chatten 1, Grayson sur sw	3415	

CASS COUNTY—Phillips Pet. Co.'s Old 1, J. A. Stephenson sur, lcn.

HARRISON COUNTY—Shell Rock Pet. Daugherty 1, W. W. Burris sur, topped chalk 3328 ft, sdtr bit 3441 ft, elev 388 ft.

MARION COUNTY—A. A. Trammell, Tr.'s Hussey 1, Lockhart sur, mov in rig. H. L. Hunt's Chatten 1, Grayson sur, topped chalk 1960 ft, set 6⅝-in cas 2476 ft, sw, abn td 3415 ft.

SHELBY COUNTY—Chapparral Oil Co.'s Holt 2, Matthew Moore sur, sd 3300 ft. Benedum & Trees' McCann 1, Nancy Beattie sur, set 9-in cas 2762 ft, dr hard lime 4620 ft.

SOUTHWEST TEXAS

ATACOSA COUNTY—American Central O & G Co.'s McConnell 2, WMC Baker sur, 2 mi sw Somert field, sp in.

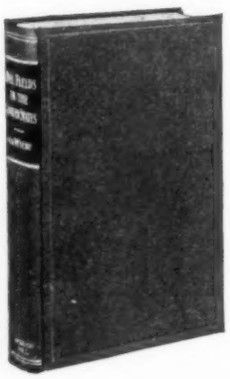
BASTROP COUNTY—Pacific O & G Co.'s Spooner 1, set csg about 2060 ft for test, good oil show, prep. to dr in.

BEXAR COUNTY—Dingman Dr. Co.'s Cassin 2, to make new lcn. Penn-Tex Oil Co.'s Sandimeyer 2, Manchaca sur, dr 620 ft. J. Morgan Russell's Mills 1, Angel Navarro sur, dr abt 420 ft. Yelvington, Henry (formerly Swift & Fischer) Beck 1, 10 mi e of San Antonio, to set csg below 1400 ft, showing of gas. McElreath and Suggett's Pauline Cassiano 1, Juan Montez sur, prep to sp in.

BEE COUNTY—Barnsdall Oil Co.'s Courtney 1, dk. Baytex Oil Co.'s Burnett 1, (s offset to Cosden-McKinney) mv on rig. Cosden Oil Co.'s R. A. McKinney 1, (John Pace sur flowing about 400 bbls after deepening 9 ft to 3677 ft; McKinney 2, (497 ft n of No. 1) ru; McKinney 3, (500 ft w of No. 1) dk. Glasscock Bros' Pettus Town 1, (blk 41) dr 2610 ft. Grayburg Oil Co.'s Kimball 1, showed 650 ft of oil in 4½ minutes with 60 pounds pressure on ⅜-inch choke. Humble's McKinney 3 (608 ft s of No. 2) prod 615 bbls on ⅝-inch choke set 6 and ⅝-inch csg about 4005 ft, sand at 4006-15 ft. McKinney 4, lcn. Houston Oil Co.'s Pettus Town 1, (blk 36), dr 3667 ft sticky shale; Newman 1, sp in. Geo. A. Henshaw et al's Beck 1, (150 ft from n and e lines of lot No. 2 in Hicks Hahl subdivision, 1 mi ne of Hicks gasser) loc. Edwin M. Jones, Rapp 1, Sec 11, Ragley subdivision, Uranga sur, set 12½-in surface pipe at 342 ft, now dr at 2130 ft. Nichols et al's Hicks 2, install 66 ft step dk and mv rig from No. 1 to swab, tubing sanded up, No. 3 Hicks (1000 ft sw of No. 2) sp in. Osage Oil Co.'s A. J. Mauldin 1, Pointebent sur, 1 mi se of Grayburg-Kimball well loc. Trinity Drillers' (SRC) Roberts 1, dr 2200 ft; Roberts 2, loc; Alfred Pheis 1, (1 mi ne of Cadiz in R. S. Barnes sur) loc — water well completed. Ed Price's Weiss 1, dr 3112 ft, has small showing of gas and 780 ft of salt water on test of sand topped at 3097 ft. Union Prod Co.'s Ray No. 9 (600 ft s of No. 8) prod 597 bbls on ⅜-in choke at 3998-4014 ft; Ray No. 10 loc; Ray No 11 dr 385 ft; surface casing set at 286 ft; Ray No. 13 loc; Ray No. 14 (600 ft se of Ray No. 1, 250 ft from sw line) dk; Ray No. 15 (Geo. Habmer sur, 900 ft s of Morgan-McKinney gasser) dk.

BROOKS COUNTY — Houston Oil Co.'s Holbein-Wormser 1, set csg at 3806 ft being Lasater No. 1 standing at 4128 ft; Holbein-Wormser 2 (Saenz part of Palo Blanco de Maguellas grant) loc. Humble's Singer 2, (Sec 312) dr 2675 ft.

CALDWELL COUNTY—Humble's Mrs. W. H. New 4 (James Hinds survey, extreme n end of Bruner field) flowing more than 10,000 bbls of oil daily through four-in choke one-half closed at total depth of 2319 ft, csg set at 2257 ft, Trap Briscoe 2, being worked over; Bill Hinton's J. K. Williams 1, (about ½ mi n of Morgan-Perry test) dr about 850 ft. T.



Oil Fields in the United States

By WALTER A. VER WIEBE

Professor of Geology, University of Wichita

629 pages, 6 x 9, illustrated, $6.00

A complete and systematic presentation of the fundamental facts of oil accumulation in all fields of the United States. The book describes the structural elements which account for the presence of oil, the relation of structure to production and the peculiarities of the geological setting of all oil fields in the country.

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HOUSTON TEXAS

P. Morgan's Perry 2, (about 700 ft w of No. 1, about ½ mi n of Humble-New gusher) to mv on.

DE WITT COUNTY — Russell & Slick's Weissgarder 1, Little sur 10 mi nw of Yorktown dr 1492 ft. L. O. & R. Co.'s Klavemann 1, R. Galletty league, to make dr stem test at 3997-4001 ft, good showing of oil and sand.

DUVAL COUNTY—Bain and Shaw's Benavides 1, (Sec 175) coring below 2782 ft. Callahan, Howard & Smith's Luby 1, Sec 24, dr at 3108 ft. Cole Pet. Co.'s Benavides 59, (Sec 20, Cole sub) dr and coring ahead at 2560 ft. Humble's Koehler 46, set surface csg at 298 ft. Henne & Winche's (W. E. May) R. Benavides 1, (Carpenter lease) dr 1460 ft. C. E. Long Co.'s Bishop Land Co. 1, loc. Larco Gas & Pet. Co.'s Black-Beall 1, (4000 acre blk in nw part of county) loc. Magnolia's Lundell 1, dr 3950 ft. Putman & Walsh's Haggist 1, (Sec 269) prep to sp in. Vacuum's C. W. Hahl 1, loc.

FAYETTE COUNTY—Heffer-Stanton's M. E. Manton 1, (W. H. Taylor survey abt 3 mi nw of La Grange) dr 1760 ft. Kelly et al's Mirke 1, dr 700 ft. Moore et al's Kerr 1, side tracking at 2000 ft. Mouldon Oil Co.'s Kerr 1, fsh for dr stem at 3506 ft.

GONZALES COUNTY—Lake and Thompson's Campbell 1, (in Saturn area) ru. Modern Oil Co.'s Robinson 2, sd 2542 ft.

GOLIAD COUNTY—H. E. Hewitt's Geo. A. Ray 1, ¾ mi n of old Union Prcd. Co.'s Ray 3, set 310 ft of 10-in surface pipe. Morgan-Tidal et al's Peirrie 1, blk 14, V. Ramos sur sd 4315 ft—to install heavy rig. A. G. Rheimenschneider's A. T. Fromme 1, Peter Dexter sur 12 mi n of Goliad set surface csg, dr abt 400 ft. Union Prod. Co.'s Ray 12, W. E. Sutherland sur, dk.

GUADALUPE COUNTY — Cranfill-Reynolds' G. W. Wilson 1, J. Cantu survey, ru. Grayburg Oil Co.'s Wells 2, (1425 ft se of No. 1) to sp in shortly. Hadley et al's Hartwig 1, (R. Nixon survey) (6 mi sw of Darst Creek) dr 2850 ft in Taylor. Mid-Kansas Oil & Gas Co.'s J. J. Waldrop 2, (about 1000 ft se of No 1) dk. Penn Oil Co.'s State 1, J. C. Darst survey, in Guadalupe river bed, 1½ mi sw of Darst Creek field, ru. Penn-Tex Oil Co.'s Roamel 1, (J. Robinson sur 1300 ft w of Roamel gusher) sd below 2441 for repairs. Tidal's Seligmann 1, (N. J. Williamson survey) pumping sand into hole at 2801 ft, encountered sulphur water in Edwards. Trinity Drillers' Kirby 1, (Darst Creek) ru. Weinert et al's Goldman 1, (Darst Creek) dk.

HAYS COUNTY — Muckleroy and Craft's Heindenreich 1, (3 mi s of Kyle) dr below 500 ft, encountered chalk at 261 ft, approximately 135 ft high.

KARNES COUNTY — Maudine Investment Co.'s A. D. Wilburn 1, (Hardt survey, 3 mi se Runge) set 301 ft of 10-in csg. Moody Seagraves Prod Co.'s Boyce 1, about ¾ mi due n of Morgan McKinney gasser in Bee County, set surface csg at 376 ft. Morrisey and Edminston's T. H. Ragsdale 1, John McCoull sur, set 756 ft of 10-inch csg, dr 789 ft.

KENDALL COUNTY—Borget et al's Willie Haag 1, no report. Dixon et al's Behr 1, (3 mi se Sisterdale) fsh at 1750 ft. Molwinkle et al's Karston 1, dr 350 ft. P. B. Sterling's McCrocklin 1, (S. S. Owen survey) to mv on. Sitton Oil Co.'s Garvin 1, dr.

KERR COUNTY—Mashe and Tunstils' Love Ranch 1, prep to sp in.

KINNEY COUNTY—Blume et al's Herbst 2, dr. Magnolia's Wardlow 1, (Blaez survey) dr.

LIVE OAK COUNTY — Dougherty et al's Fee 1, M. Borden survey, dr in sandy shale at 3260 ft. Houston Oil Co.'s Booth 1, dr 3499 ft in sticky shale; No. 22 Cartwright sp in. Larrco Gas & Pet Co.'s Wallace D. Wade 1, (5 mi n and e of Sandaria, loc.

MAVERICK COUNTY—Rycade Oil Co.'s Chittim 5, reaming below 3725 ft; No. 5 Sullivan dr 5400 ft; Chittim 6, standing csg set 2741 ft.

MEDINA COUNTY — Pat Armstrong's Crawford 1, dr; Butts No. 1 dr. Donaldson Oil Co.'s Adams 2, dr 400 ft. Miller & Perkin's Taylor 1, dr. Natl. Oil Co.'s Howard 1, dr. Pearson Oil Co.'s Irrigation Farms 6, sd 380-8 ft; Whiteside No. 1 prod 2 bbls at 344 ft. Pan American Dev. Co.'s Hardt 1, set csg at 1107 ft, strong showing of gas and oil. R. M. Perkins' R. J. Taylor 1, (Castro No. 136, 3½ mi sw of Hondo) dr. G. Reagen's Haas 1, (J. Burleson No. 64 survey, 12 mi from Noonan) testing 932 ft. Sun's Wm Edgar 1, (abt 2½ mi n and e of Noonan) dr 520 ft. Sunflower Oil Corp.'s Modfield 1, Sec 532, J. Brothax survey, 10 mi s of Hondo, prep to sp in.

NUECES COUNTY—Grimm & Yeagley's Land ranch 1, (7½ mi ne of Agua Dulce field) loc. Houston Oil Co.'s M. E. Brooks 1, (Agua Dulce field) dr around 3600 ft. Saxet Oil & Gas Co.'s Donigam 1, (6 mi w of Corpus Christi) sp in.

SAN PATRICO COUNTY—Cosden et al's John Schmalsteig 1, (Sec 9, 6 mi s Sinton) loc. Jacob, Buzzini & Pickett's J. C. & Bobby Baldwin 1, (middle of tract, abt ¼ mi n of Baseline rd, abt 4½ mi e of Sinton) dr below 3000 ft. La Feria Oil & Gas Co.'s C. C. Smith 1, dr.

STARR COUNTY — I. V. McLean 1, (in Porcion 81) loc. J. E. Smith's Welsh 1, ru rotary rig at 841 ft to re. dr. The Texas Co.'s Guerra 1-B, (Roma bed) dr 3730 ft.

UVALDE COUNTY — Phantom Oil Co.'s Claudt 1, (New Mantell) dr below 2000 ft. Welch et al's Benson 1, (NW Uvalde) dr below 1500 ft.

VAL VERDE COUNTY—Phantom Oil Co.'s Ingram 1, fsh 3650 ft.

WEBB COUNTY—J. E. Eliott, Esperanza 1, Land and Livestock Co. loc. French Oil Co.'s Rosa Benavides 2-A, set csg at 2341 ft. O. W. Killam, Bruni 12, Blk 22, Albercas grant dr 3100 ft; Billings 8, (Billings Ranch) dr 800 ft; V. Bruni 1, Blk 22, Albercas grant, sd at 3656 ft; Bruni 5, (wo) dr 2340 ft; Bruni 2, (Blk 33) loc. W. E. May's Benavides 1, Sec 22, dr Magnolia's Benavides 2-A, cleaning out, standing with 1200 ft of oil in hole, csg set at 2349 ft, bt of hole 2353 ft; Benavides 4-S loc. Morris Drilling Co.'s Benadives 2, (Cole field) sd at 3025 ft.

WILSON COUNTY — Transcontinental Oil Co. et al's Bain 1, Noel F. Roberts sur, dr abt 1400 ft.

ZAPATA COUNTY — Arnold & Ahler's Garza 1, dr 869 ft. Chas. Alworth's Garcia 2, csg set 1029 ft, bt of hole 1239 ft prep to dr in. Alamo Drlg and Leasing Co.'s Trevino 3, dk; Trevino 2 (Blair lease) coring around at 1230 ft; Treviño 1, (Clagett lease) dr 200 ft. Blankenship et al 2, prep to re dr at 1650 ft. Edgington & Niles Trevino 4, ru. Humble's Soldadito 1, (24 mi s Zapata) dr. O. W. Killam's Cuellar 23, testing at 2250-51 ft; Cuellar 17-B, loc; Cuellar 18-C dr 1820 ft; Cuellar 19-B cored lignite at 1579-83 ft coring ahead for sand. Muckleroy et al's Trevino 3, being deepened. Mid-West Utilities Co.'s Garcia 1, (Pedernal Grant) dr 1381 ft. Moore & Moore's Flores 1, set surface csg at 150 ft. Slick et al's (Escobas ranch 2) dr; (Escobas ranch 3) dr. Natl Oil Co.'s Adams 1, testing around 1200 ft. Mordan & Morris (Muckleroy field) Trevino 1-B set csg at 1247 ft; Trevino 2-A ru; J. M. Guittierrez 1, dr 500 ft; Guitterrez 1-E dk. Penny Prod Co.'s Trevino 1, (Sec 4, Porcion 5, 12 mi sw of Muckleroy Pool) dr 420 ft; Cuellar 1, (Blk 1, sur 2) prep to sp. Shankle, W. R. Trevino 2, loc; Guittierrez 2, loc. SRC Company's Trevino 2, (Blk 8, Sec 66) dr 1200 ft. Trinity Drillers' Cuellar 1, Sec 65, dk; Trevino 2, sp in.

ZAVALLA COUNTY — Anglin O&G Co.'s Pryor 4, dr. Bladwin, Jack's J. R. Price 1, dr 1180 ft; F. Baldwin 1, dr 1204 ft. Cribbs & Davidson's Weatherby 1, dr. Carl F. Cromwell's Whitecotton 1, (nw corner of ranch) dk. Coppe et al's Pride 1, dr 1700 ft. Pryor, Ike, Pryor 1, (4 mi ne La Pryor) csg set at 1100 ft, to cement, showing of gas. Southern Crude Oil Co.'s Washer 1, dr 4709 ft in lime. Texas Gas Fuel Co.'s West 7, dr 200 ft. Thomas Taylor's Townsite 1, of Delmonte, loc.

TEXAS GULF COAST

Company, Well and Location	Initial Production Bbls.	Depth
GRIMES COUNTY—		
Jno. Deering et al, Rossi 1, 3 mi n Singleton	*	3090

AUSTIN COUNTY—O'Hara et al's Batla 1, 2 mi nw Raccoon City, fsh 4000 ft. Black Oil Co.'s Lancashire 1, 3 mi s Sealey, dr 4008 ft shale.

BRAZORIA COUNTY—Thos. Faust et al's Fee 6, 2 mi s Nash, 4083 ft sd. Shell's Blakely-Winston 1, 2 mi ne Danbury, swabbing 50 bbls 30 per cent b.s. and water at 1579 ft; No. 2, dr 1905 ft sandy shale. Rycade & Amerada's Rapid City, 2 mi s Danbury, fsh 5118 ft. The Texas Co.'s Ewing 1, 1¼ mi n Manvel, r 5511 ft. Mills Bennett's Randon 1, Allen dome, in heaving shale at 5365 ft. United Oil Synd.'s Morse 1, 3 mi n Danbury, sd 940 ft. Layne et al's Wisdom 6, Damon Mound, dr 2404 ft sandy shale.

CALHOUN COUNTY — The Texas Co.'s Thomas 1, J. P. Tilley sur, moving in.

CHAMBERS COUNTY—Pure's Mayes 11, Lost Lake, sd 2704 ft; Mayes A-11, dk; Lost Lake 5, dk. Pure's Kirby 1, Cove, dr 4883 ft gbo and lime. Pure-Rycade's Jackson 1, 6 mi w High Island, dr 2721 ft gbo. Shell's Herff 1, Moss Bluff, dr 5508 ft shale and lime. Superior Oil Co.'s H. Jackson 1, 4 mi w High Island, sd 3504 ft. The Texas Co.'s Jackson 1, Oyster Bayou, ru. Chicago Oil Corp.'s Lawrence 1, 10 mi s Barbers Hill, sd 3810 ft. Gulf's Lee 1, ¾ mi sw Hankamer field, dr 4786 ft sand and lime.

COLORADO COUNTY — Gulf, Humble & Penn's Wilson 1, ½ mi e Alleyton, dr 1000 ft shale.

FORT BEND COUNTY—Gulf's Moore 23 and 24, Moores Field, ru.

GRIMES COUNTY — Jno. Deering et al's Rossi 1, 3 mi n Singleton, abn at 3090 ft in shale. Cranfill-Reynolds Co.'s Stoneham 1, 8 mi se Navasota, ru.

HARDIN COUNTY—D. O. Speights' Gidrey 1, 4 mi s Batson, dr 1870 ft gbo.

HARRIS COUNTY — Humble's Warren 7, Hockley, dr 6255 ft hard sand; Simms-Smith 78, Goose Creek, lcn; Minnetex 2, Mykawa, sd 1216 ft; Sinclous 1, Mykawa, dr 5757 ft hard shale. Mrs. J. C. Baldwin's Kitzman 1, 2 mi n Cypress, sd 4247 ft. Sloane Prospecting Co.'s Davis 1, 5 mi nw Barbers Hill, dr 4020 ft sand and shale, show of oil. Cranfill-Reynolds Co.'s Rorick 1, 6 mi s Cypress, dr 4297 ft shale. Strang Pet. Corp.'s Good 1, Deer Park, dr 5280 ft gbo. Bert & Griffin's Milroy 1, 5 mi nw Aldine, dr 975 ft sandy shale. Martin, Drake & Jones' Haney 1, 3 mi e Elena, dr 5919 ft shale.

JACKSON COUNTY — The Texas Co.'s Mitchell 1, 12 mi s Edna, dr 4180 ft sandy shale.

JEFFERSON COUNTY — Westbury Oil Co.'s West 1, S. Choate sur, sd 3490 ft. Gulf's Burrell 5, Fannett, dr 5159 ft sand, oil show; Junker A-2, dr 2051 ft gbo. The Texas Co.-Houston Oil Co.'s Fitzhugh 1, Big Hill, washing down, td 5863 ft. The Texas Co.'s Pipkin 3, Big Hill, dr 1350 ft hard sand.

LIBERTY COUNTY—Gulf's W. H. P. McFadden 1, Moss Bluff, dr 5415 ft shale. Humble's Sabine Tram 1, Devers, M. Whittington sur, dr 2965 ft sticky shale. Cranfill-Reynolds' Vajdak 1-A, Esperson field, e side, cemented cas over oil sand at 6990-7067 ft. Yount-Lee Oil Co.'s Moores Bluff 3, Esperson, dr 5990 ft shale. Republic Prod. Co.'s Moores Bluff Corp. 1, Esperson, dr 3180 ft sand.

MATAGORDA COUNTY—Cockburn et al's Hawkins 1, Shepherds Mott, dr 5923 ft shale, oil odor. Watts Oil Co.'s Titus 1, dr 1000 ft, had gas show at 450 ft.

ORANGE COUNTY—Gulf's W. H. Stark 1, Port Neches, dr 3767 ft sticky shale. The Texas Co.'s Kuhn 2, Port Neches, dr 3685 ft sticky shale; Stark 2, Port Neches, set screen at 4144 ft, made one head of 25 gravity oil, but quit flowing.

VICTORIA COUNTY — Humble's Welder 1, 3 mi se Nursery, td 6690 ft, sd. Lion Oil Ref. Co.'s McFadden 1, 4 mi sw Bloomington, cemented 9⅝ cas at 3739 ft. Newton et al's West 1, dr 800 ft. The Texas Co.'s McFadden 1, Hannibal Bonney sur, 6 mi se Bloomington, ru. Atta Drlg. Co.'s West 1, dr 800 ft gbo.

WALKER COUNTY — Joyce Richardson's Smither 1, 12 mi n Huntsville, sd 3450 ft.

WALLER COUNTY — Kirby Pet. Co.'s Davis 2, San Felipe, dr 4515 ft shale. Humble's Taub 1, 14 mi ne Hempstead.

WASHINGTON COUNTY — W. B. Birdwell's Schram 1, 3 mi e Brenham, sd 2108 ft. Mid-Kansas O&G Co.'s Cascamp 1, 12 mi ne Brenham, sp.

SOUTH LOUISIANA

ACADIA PARISH—Yount-Lee's Houssiere-Latrielle 8, Evangeline, dr 7420 ft sandy shale, oil show. The Texas Co.'s Rayne Hrs. 5, Evangeline, dr 8155 ft sandy shale. Calcasieu Oil Co. et al's Hayes 1, 3 mi nw Iota, abn at 6629 ft.

AVOYELLES PARISH — R. A. Tippett's Chatalin 1, 5-1n-3e, dr 3190 ft gbo.

CALCASIEU PARISH — Wilfred Lahay's

James 1, 14-10s-13w, r 3650 ft. Adams Oil Co.'s Roderick 1, Starks, sd 1100 ft. Gulf's Lutcher-Moore 23, Starks, dr 450 ft sand.

CAMERON PARISH—Pure's Yount-Lee 9, set 8¼-in cas at 6355 ft to test. Magnolia's Sweet Lake 1, ru. Shell's Watkins 15, Black Bayou, lcn. Vacuum's Cameron Meadows 1, e Johnson Bayou, dr 3843 ft sticky shale. Calcasieu Oil Co.'s Caldwell 5, E. Hackberry, abn 6998 ft.

IBERIA PARISH—The Texas Co.'s Vermilion Bay 5, ru. Lake Oil Co.'s Ben White 1, 54-12s-7e, dr 640 ft water sand.

IBERVILLE PARISH—Standard's Schwing 5, Bayou Blue, set surf cas; Wilbert 5, Bayou Blue, dr 1965 ft sandy shale; No. 7, dk; No. 8, moving in.

JEFFERSON PARISH—Humble's Delaware Fur Co. 1, 3 mi nw Lafitte, dk.

JEFFERSON DAVIS PARISH — Yount-Lee's Courtney 1, Welsh, dr 4215 ft shale; Abbott 1, Welsh, dr 4105 ft water sand. M. L. Vincent, Tr.'s Richards 1, 22-7s-3w, dr 1260 ft sand.

LAFAYETTE PARISH—Pure's Manmotin 1, 5 mi n Lafayette, ru.

LA FOURCHE PARISH—The Texas Co.'s Leesville 1, 27-21s-22e, dr 5190 ft hard sand.

PLAQUEMINES PARISH—Humble's Cockrell 3, Lake Grande Ecaille, dk; Lake Washington 1, Lake Grande Ecaille, will swab at 5152 ft. The Texas Co.'s Garden Island Bay State 4, skidding rig for new hole, old one 920 ft deep.

ST. LANDRY PARISH—Hebert-Baker Oil Co.'s Fisher 1, 10-3s-4e, td 4260 ft.

ST. MARTIN PARISH—The Texas Co.'s St. Martin Ld. Co. 3, Hager, dr 1785 ft. Yount-Lee's Hebert 2, Anse la Butte, dr 2345 ft sand.

ST. MARY PARISH—Pure's Wax Lake State 2, 11-17s-9e, dr 4480 ft gbo. The Texas Co.'s South Coast Co. 1, 4 mi n Franklin, dr 2740 ft gbo. La. Ld. & Explo. Co.'s Chas. W. Fox 1, Glenwild, lcn.

TERREBONNE PARISH — Chas. Paggi's Evergreen 2, Houma, dr 1800 ft sandy shale. Freeport Sulphur Co.'s Nelson 1, 12-21s-12e, dr 5200 ft sandy shale. The Texas Co.'s LLE-Bay Junop 1, 27-21s-14e, abn 4935 ft; Caillou Island State 3, 18-23s-20e, dk; No. 4, lcn; Lake Pelto B-2, 23s-18e, temp abn at 2160 ft gbo; Bay St. Elaine 4, 17-22s-18e, fsh 5186 ft; Lake Barre State 4, 20-21s-20e, dr 2390 ft gbo and lime; Nos. 5 and 6, lcns; Dog Lake State 2-A, 5-22s-16e, dr 4800 ft sand, oil show.

NORTH LOUISIANA

Completions

Company, Well and Location		Initial Production Bbls.	Depth
BOSSIER PARISH—			
Walker et al, Antrim 1, 28-21-13...		*	3184
CADDO PARISH—			
Magnolia Pet. Co., Swan & Davis 1, 16-21-14		¶½	1973
DE SOTO PARISH (Holley)—			
Standard Oil Co. of La., Mattie Fuller 1, 5-13-13	sw		2867
Jessie Fuller 2, 6-13-13		¶15	2829
Parker Bros. A-1, 5-13-13	sw		2852
WEBSTER PARISH—			
J. J. Kean, Monzingo 1, 27-18-8w	sw		3008

BIENVILLE PARISH—Ark. Fuel Oil Co.'s Ashley 1, 15-16-10, dr shale 1656 ft. Ashley 3, 15-16-10, rig up. W. A. Nichols' McDermott 1, 28-18-8w, sd 2191 ft.

BOSSIER PARISH—Andrews & Davlin's Nattin 1, 15-22-14, cor sandy shale 850 ft. Walker et al's Antrim 1, 28-21-13, dry abn td 3184 ft. La. G&F Co.'s Crystal O&G Co. 1, 7-21-11, tested sw through ds, wo td 3551 ft. H. I. Morgan et al's Kendrick 1, 22-19-11, rig up. Eylers O&G Co.'s Wise 1, 35-23-12, wosr, td 3203 ft.

CADDO PARISH—D. C. R. Oil Co.'s Oden 1, 18-19-14, sd, high water 2620 ft. R. W. Norton's Hill 1, 33-23-16, dr lime 5100 ft. Magnolia Pet. Co.'s Swann & Davis 1, set 6⅝-in cas 1535 ft, set 5 3/16-in cas 1965 ft 466,000 cu ft gas, td 1973 ft.

CATAHOULA PARISH — National O&G Co.'s Kirkland 1, 35-9-6e, sd, wo 1300 ft. Nick Babare et al's McGraw 1, 30-10-9e, dk.

CLAIBORNE PARISH—Triangle Drilling Co.'s Caskey 2, 6-19-5w, dr anhydrites 4099 ft. El Dorado Chief Oil Co.'s Simmons 1, 27-20-7w, sd in bldrs and shale 2240 ft. Leue Oil Co.'s Taylor 1, 16-22-6w, sd 2864 ft.

CONCORDIA PARISH—Joe Marr et al's Maxwell 1, 33-3-8e, sd 2820 ft. A. C. Glassell's Pittsfield Plantation 1, 41-8-10e, set 8-in cas 1370 ft, blew out making 5 mil ft gas, lots sw, bridged over, arr re-cemt 8-in cas under pressure at 1370 ft, td 1450 ft.

DE SOTO PARISH—Benson O&G Co.'s Harris 1, 6-10-13, sd 3650 ft. J. M. Burnham's Hood 1, 3-11-14, lcn. Standard Oil Co. of La.'s Farmer B-1, 8-13-13, cor shale 2709 ft. R. A. Nelson 1, 36-15-13, sp, dr 175 ft. Parker Bros. A-1, 5-13-13, set 6⅝-in cas 2750 ft, Woodbine topped at 2836 ft, sw, abn td 2852 ft. McClanahan 1, 8-13-13, cor shale 2877 ft. Brooks 1, 8-13-13, dr 2730 ft. Fuller & Canard 1, 6-13-13, lcn. McGee 1, 8-13-13, dr sand rock 2783 ft. Mattie Fuller 1, 5-13-13, set 7-in cas 2780 ft, topped Woodbine 2834 ft, sw, abn td 2867 ft. Jesse Fuller 2, 6-13-13, set 6⅝-in cas 2725 ft, 15 mil cu ft gas, td 2829 ft. Farmer A-2, 5-13-13, sp, set 10-in cas 160 ft. Lee 2, 4-13-13, sp, set 10-in cas 208 ft, dr 330 ft. Farmer D-1, 32-14-13, dr sandy shale, streaks lime 2907 ft. H. B. Sample 1, 7-13-13, dr lime and shale 3105 ft. W. C. Clark et al's Nabors 1, 7-13-13, rig up. Lacy Oil Co.'s G. W. Sample 1, 1-13-14, sp, set 1-in cas 180 ft. H. L. Hunt's Furman 1, 5-14-13, dr 1760 ft. Odell & Lawton's Harris 1, 11-13-14, cemtd bottom at 3140 ft, set 6-in cas 2743 ft, dr plug, well blew oil while r to bottom, blowing est 15 to 20 mil ft gas, heavy spray sw, 1600 ft, ds in hole. Frank Melat, Inc.'s Schryver 1, 35-14-13, topped Nacatosh 1187 ft, base chalk 1932 ft, wo bailer, td 1940 ft.

EAST CARROLL PARISH—Louisiana G&F Co.'s Hicks 1, 12-19-10e, sp, dr 60 ft.

FRANKLIN PARISH—Davis et al's Moore 1, 12-11-6e, sd 1430 ft.

JACKSON PARISH—El Dorado Chief Oil Co.'s Southern Adv. Paper Co. 1, 35-15-4w, dr 1100 ft.

LA SALLE PARISH—Hudson et al's Gandy 1, 4-11-3e, set 10-in cas 100 ft, dr 300 ft.

LINCOLN PARISH—Ark. Fuel Oil Co.'s Lewis & Co. 1, 26-20-4w, sp, set 10-in cas 182 ft, dr 1005 ft.

NATCHITOCHES PARISH—S. D. McDaniels' Clark-Morse 1, 23-5-6w, sd 2436 ft. Robeline O&G Co.'s Winn 1, 7-8-9w, sd in rock 1635 ft. W. M. Coates' Collins 1, 28-9-10, set 12½-in cas 150 ft.

RAPIDES PARISH—Ayers Bros.' Wicklipp 1, 9-5n-2w, sd 2650 ft.

RED RIVER PARISH — W. D. Ball's Krumbholz 1, 32-14-10, sd 1701 ft. E. C. Lucas' La. Delta Pecan 1, 27-13-11, sd high water 782 ft. Geo. L. Pace et al's Clarkson 1, 30-12-9, rig up.

RICHLAND PARISH—Austin & McDonald's Millsaps 2, 17-17-6e, sd 2697 ft. Millsaps 3, 16-17-6e, sd 2477 ft. Millsaps 4, 16-17-6e, lcn. Millsaps 5, 8-17-6e, dk. Hunt 1, 13-17-5e, dk. W. C. Feazel's Landrum 1, 6-16-7e, dk. International Gas Prod. Co.'s LaGrone 1, 7-16-7e, lcn.

SABINE PARISH—McDaniels et al's Batson 1, 16-8-12, set 6-in cas 2193 ft, tested dr 2304 ft. Loring Oil Co.'s Peavy-Wilson 1, 21-6-13, topped marl 3010 ft, tested dry 3098 ft, cor 3209 ft. Gardner 1, 27-8-12, lcn. Shull 1, 26-8-12, lcn. R. L. Gay, Tr.'s Bowman-Hicks 8, 18-7-13, set 6-in cas 2187 ft, bailing to test, td 2328 ft. Ruston Drilling Co.'s Bowman-Hicks 1, 4-7-12, ta 2640 ft. Bowman-Hicks 2, 35-8-12, wo 2690 ft. Bowman-Hicks B-1, 24-7-14, ta 2740 ft. Warner Quinlan Co.'s Sabine 2, 34-8-12, lcn. Le Grande et al's Giaque 1, 6-7-12, lcn. D. H. Reddick, Tr.'s Scretchfield 1, 16-9-12, dr 3100 ft. Paramount O&G Co.'s Woolums 1, 11-6-12, sd 1650 ft. Zeke Lohman's Wyatt Lbr. Co. 1, 18-4-11, rig up. Pelican Nat. Gas Co.'s La. Long Leaf 2, 20-7-12, set 6⅝-in cas 2677 ft, bailing, showing oil, td 2707 ft. Sabine Lbr. Co. 2, 12-7-12, topped marl 2308 ft, coring marl 2310 ft. J. R. Crawford's Meshell 1, 32-8-12, sd 1950 ft. Stacy et al's Polly 1, 18-8-12, bldg dk. W. D. Perritt's Crow 1, 30-8-12, hfo, wosr, td 2387 ft. Teteco Oil Corp.'s La. Long Leaf 1, 18-6-12, dr 2839 ft. Longoria et al's Belton 1, 31-9-13, rig up. Boone, Tr.'s Hill 1, 4-8-11, dk pat.

TENSAS PARISH—Willis et al's Curry 1, 39-11-12e, set 8-in cas 1830 ft.

UNION PARISH—Fred Stovall's Murray 1, 32-23-4e, rig up, sd, high water.

WEBSTER PARISH—J. J. Kean's Monzingo 1, 27-18-8w, set 8-in cas 1698 ft, sw, abn td 3008 ft. Pat Hudson's Gardner 1, 1-22-11, dk. Mount Vernon O&G Co.'s Pardee 3, 3-22-11, wosr 2663 ft. Sarepta Oil Co.'s Slack 1, 36-23-11, rig up. Gardner 2, 1-22-11, rig up. H. M. Jones Drilling Co.'s Cook 1, 2-22-11, tested show oil, much sw, td 2733 ft. Cook 2, 2-22-11, lcn. Womble 1, 1-22-11, lcn. Ideal O&G Co.'s Coyle 1, 24-23-11, dk. K. C. Supply Co.'s Cochran 1, 36-23-11, cor 2700 ft. Slack 2, 36-23-11, sp, dr 50 ft. J. S. Martin's Traylor 1, 36-23-11, cor 3100 ft. Magnolia Pet. Co.'s Gardner 1, 1-22-11, set 8⅛-in cas 2712 ft, td 2727 ft. Merrick Oil Corp.'s Slack 3, 36-23-11, dk. Glen Kahle's Taylor 1, 35-23-11, dk. S. H. Riggs, Tr.'s L. & A. 1, 1-22-11, sp, set 10-in cas 300 ft, dr 700 ft. L. & A. 2, 36-23-11, dk, pat. L. & A. 3, 36-23-11, lcn. L. & A. 4, 36-23-11, lcn. Wingfield et al's Slack 1, 1-22-11, lcn. W. O. Neeley's J. R. Slack 1, 12-22-11, lcn.

ARKANSAS

Company, Well and Location		Initial Production Bbls.	Depth
UNION COUNTY—			
O. W. Estes, Telford 1, 35-17-15 ...	sw		2906
Root Ref. Co., G. N. Jerry 2, 21-17-14 . .....Junked			2934

CALHOUN COUNTY—Tidal Oil Co.'s Ark. Timber 1, 3-16-14, rig up.

COLUMBIA COUNTY — L. E. Parker's Franks 1, 25-19-22, sd 2831 ft. Sam Y. Dorfman's Merrick 1, 16-17-20, rig up. J. K. Wadley, Tr.'s Longino 1, 32-18-22, rig up.

CLEVELAND COUNTY—Donnell et al's Fee 1, 35-11-9w, fsh for tools 960 ft.

CLEBURNE COUNTY—Cosden Oil Co.'s Donithan Lbr. Co. 1, 19-9-10, set 10-in cas 2485 ft, dr 3507 ft.

DREW COUNTY—McClintock & Goedke's Ogle 1, 33-13-5, set 8-in cas 1800 ft, wo 2625 ft.

FAULKNER COUNTY—Gold Creek O&G Co.'s Stermer 1, 17-4-13, ta 3872 ft. Stermer 2, 17-4-13, rig up wo.

FRANKLIN COUNTY — Ozark Nat. Gas Corp.'s McElroy 1, arr plug back, td 3100 ft. Red Bank Oil Co.'s Hamm 1, 33-10-26, dr 1700 ft.

GARLAND COUNTY—H. H. Given's Garrett 1, 1-13-19w, fsh for tools 3531 ft.

GRANT COUNTY—Jones & Watkins' Meek 1, 5-4-11, ta 1400 ft.

JOHNSON COUNTY—Ark. La. Pipe Line Co.'s Cline 1, 16-10-24, dr 1490 ft. Blackwell O&G Co.'s Wyver 1, 21-8-23, jarring out 6-in cas 2100 ft, td 5600 ft. Conn Gables et al's Holing 1, 20-9-25, dr 1010 ft.

LAWRENCE COUNTY—Marguerite Dev. Co.'s Broadway 1, 31-17-1, sd 45 ft.

LITTLE RIVER COUNTY—Grote et al's Allen 1, 31-12-31, ta 2941 ft. C. F. McDonald's Black 1, sd 2180 ft. Buck Oil Co.'s Taafe 1, 23-12-32, coring lime 2376 ft, (no recent report.)

LOGAN COUNTY—M. W. Greesom's Perk 1, 21-8-24, sd 1309 ft. J. H. Flowers' White 1, 13-6-26w, set 5 3/16-in cas 2510 ft, sd 3600 ft.

MADISON COUNTY—J. W. Baxter's Hallam 1, 17-16-26, sp, dr 85 ft.

MILLER COUNTY—Lenz et al's Johnson 1, 24-15-26, lcn.

OUACHITA COUNTY — Anderson et al's Buck 1, 7-15-17, co, td 2735 ft. Buffalo Oil Co.'s Campbell 1, 11-15-19, rigged up wo acct high water.

POPE COUNTY—Cosden Oil Co.'s Mo. Pac. R. R. 1, 13-9-19w, set 8¼-in cas 3812 ft, dr 4330 ft.

SEBASTIAN COUNTY—M. W. Greesom's Spears 1, 9-7-29w, dr shale 1406 ft. Lavaca O&G Co.'s Cason 3, 21-8-30, dk. J. O. Ingram 7, 22-8-30, dk. Cason 9, 21-8-30, dr 2050 ft. A. G. Williams, Jr.'s Patterson 1, 27-8-30, lcn. Mansfield Gas Co.'s Fee 14, 1-4n-31w, lcn. Ozark Nat. Gas Co.'s Weaver 1, 27-8-30, bldg dk.

SCOTT COUNTY — Heavener O&G Co.'s Rezer 1, 36-4-26w, sd 1520 ft.

ST. FRANCIS COUNTY — Brownlee Oil Co.'s Whitted 1, 20-4-1w, sd 2740 ft.

UNION COUNTY—H. L. Hunt's Pratt 6, 7-18-15, pumped pure sw, wo, td 2214 ft. Trammell 1, 28-18-12, tested est 5 mil gas, flow sw 3545-52 ft, tested est 3 mil gas and 16 joints sw through ds 3546-56 ft, cor 3606 ft. Malloy & Co.'s Robertson 3, 6-18-15, lcn. Murphy 1, 1-18-16, rig up. S. B. Hickman et al's Hogg 1, 35-16-17, sd 2021 ft. Southern Crude Oil Purch. Co.'s Oliver 1, 11-18-13, fsh slip 3527

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ft. Lion O. R. Co.'s Ballard 1, 10-18-13, ta 4501 ft. J. W. Olvey's G. G. Simmons 1, 15-18-13, plug back to 2270 ft, re-cemtd 6⅝-in cas 2233 ft, bailed and swabbed sw, wo old, td 3563 ft. Federal Pet. Co.'s Tillman 1, 9-18-13, lcn. Marine Oil Co.'s P. Winn Est. B-3, 10-18-13, dr red beds 3377 ft. Simms Oil Co.'s Simmons B-1, 10-18-13, ta 3535 ft. South El Dorado Oil Co.'s R. Traylor 1, 9-19-15, set 6-in cas 2162 ft, td 2163 ft. Modisette Drilling Co.'s Union Sawmill 4, 14-18-14, lcn. Carter et al's Burnside 1, 23-18-14, dr 2020 ft. Ark. Fuel Oil Co.'s Burns 1, 14-18-17, cored sw sand 3230-36 ft, cor 3272 ft. O. W. Estes' Telford 1, 35-17-15, set 4½-in cas 2882 ft, 24 ft sand sw, abn 2906 ft. Root Ref. Co.'s G. N. Jerry 2, 21-17-14, junked abn, td 2934 ft. Sunby et al's Perdue 2, 23-16-14, sd 2850 ft.

WASHINGTON COUNTY—Taylor et al's Runny 1, 1-13n-29w, dr 250 ft. Lincoln Lease Holding Co.'s Townsite 1, 30-15-32, sd 1500 ft. C. H. Willoughby's Jones 1, 34-16-30, sd 2150 ft. O'Hara & Shetterley's Boyd 1, 12-16-32, ta 850 ft. Delbert Graves' Cunningham 1, 14-15-32, sd in gray sand 692 ft.

WHITE COUNTY—Letona Synd.'s Letona 1, 35-9-8, set 5 3/16-in cas 3500 ft, sd 3650 ft.

VAN BUREN COUNTY—J. S. Martin's Scanland 1, 5-9-13, sd 50 ft.

YELL COUNTY—T. Luckett's Balcon 1, 36-7n-21w, reset 6⅝-in cas 3637 ft, td 3710 ft.

NEW MEXICO

CHAVES—Warman Oil Trust, Blackdome 1, ne 27-13s-24e, sd indef 1195 ft.

DE BACA—Matador Oil Co.'s Wood 1, se 6-4n-20e, sd 3070 ft.

EDDY—Henderson et al's Grier 1, nw 21-16s-31e, abn 3806 ft. Lockhart et al's Parker 2-X, se 23-17s-30e, dr 520 ft. Pueblo Oil Co.'s Russell 5, nw 18-17s-31e, dr 3400 ft.

LEA — Midwest Refining Co.'s Farnsworth 19A, sw 14-26s-37e, dr 675 ft. Fidwest's Farnsworth 34, se 13-26s-36e, dr 1685 ft. Midwest's State 8, nw 4-19-38, cemt 251 ft. Midwest's State 36, sw 10-19s-38e, cemt 4016 ft. Midwest's State 13, nw 15-19s-38e, gas show 3265-70 ft. Midwest's State 1, nw 15-19s-38e, dr 3060 ft. Ohio Oil Co.'s State 1, 32-18s-39e, test at 3530 ft. Ohio's State 2, 32-18s-39e, rigging. Ohio's State 1, 15-29s-36e, dr 1070 ft. Ohio's State 1, 30-18s-38e, dr 3015 ft. Shell Pet. Corp.'s State 1, ne 32-18s-38e, 2500 bbls oil, 35 mil gas at 4004 ft. Shell's McKinley 1, 19-18s-38e, dr 3995 ft. Walker et al's Terry 2, se 10-19s-38e, dr 2375 ft. Empire's Fowler 1-C, ne 31-18s-38e, dr 3015 ft. Morton et al's State 1, nw 32-11s-38e, dr 5005 ft. Tidal Oil Co.'s Coleman 1, se 29-18-38, dr 3245 ft. Fisher & Lowrie's State 1, nw 11-18s-36e, to dd from 5200 ft. Humble O. & R. Co.'s Bowers 2-A, se 3018s-38e, dr 2426 ft. Walker et al's Terry 2, se 10-19s-38e, dr 3305 ft. Texas-Pacific Coal & Oil Co.'s State 1-G, 24-18s-37e, dr 3410 ft. Texas-Pacific's State 4, nw 21-23s-36e, dr 3745 ft. Hobbs High Oil Co.'s State 1, se 35-18s-38e, dr 1810 ft. Maljamar O. & G. Corp.'s Baish 3, nw 21-17-32e, dr 3580 ft. Landreth Prod. Co.'s State 1, se 7-18s-38e, dr 2024 ft. Amerada Pet. Corp.'s MacKinley 1, nw 30-18s-38e, dr 3465 ft. Amerada's State 1-A, ne 32-18-38, dr 2880 ft. California Co.'s State 1, se 29-18s-38e, dr 2520 ft. Gypsy Oil Co.'s Grimes 1, nw 32-18s-38e, dr 3520 ft. Prairie O. & G. Co.'s Crump 1, ne 15-19s-38e, dr 3560 ft. Texas Prod. Co.'s State 1-C, ne 25-18s-37e, dr 1840 ft. Geo. Getty's McKinley 1, ne 30-18-38, dr 2500 ft. Humble O. & R. Co.'s Bowers 2-A, 30-18s-38e, dr 2140 ft. Sun Oil Co.'s McKinley 1, ne 5-19s-38e, dr 3785 ft.

McKINLEY—J. W. Halsell's Santa Fe 1, 17-18-9w, fsh 3250 ft. Williams et al's A. T. S. F. 1, sw 19-18n-8w, dr 2051 ft. Walker Dome Oil Co.'s 1, 12-15-10, dr 920 ft.

RIO ARRIBA—Berringer et al's Hartman 1, ne 8-29n-7w, sd 825 ft. San Juan Pet. Co.'s Gov't 1, sw 14-30n-7w, sd 270 ft.

SAN JUAN—Dorothy Oil Co.'s Terwilliger 2, 29-30-9w, dr 1585 ft. Southern Union Gas Co.'s Day 1, se 20-28n-10w, dr 1512 ft. Southern Union Gas Co.'s Garland 4, nw 14-28n-11w, dr 1350 ft. Childers Dr. & Pr. Co.'s Westwater 2, nw 23-21-16w, sd 2526 ft. Reserve Oil Co.'s Shafer 2, ne 1-21n-14w, sd 780 ft.

SANDOVAL — Mayflowers O. & G. Co.'s Marion 1, se 23-20n-2w, sd 2060 ft.

SAN MIGUEL — Pioneer O. & G. Co.'s Thunderbird 1, nw 14-15n-16e, waiting dr equipment 2355 ft. Starr Oil Co.'s Adams 1, ne 25-17n-17e, 8¼-in at 3271 ft. Cibola Pet. Co.'s Crown 1, se 9-13n-14e, ready to resume 320 ft. Hershfield Dev. Co.'s Cabra Springs 1, ne 21-12n-22e, sd 735 ft.

SOCORRO—Lockhart & Co.'s Stackhouse 2, 14-3s-6e, dr 2715 ft.

TORRANCE—Williams et al's Staplin 1, ne 16-8n-10e, sd 1643 ft. J. B. Will O. & G. Co.'s Kutchem 1, 12-17s-7e, sd 710 ft.

VALENCIA—Rio Puerco Oil Co.'s N. M.-Ariz Land Co.'s 2, ne 13-6n-2w, waiting for pipe 3145 ft. Acme Oil Co.'s N. M.-Ariz. Land Co.'s 1, 26-6-3, dr 4741 ft. Harlan et al's Harlan 1, 5-6n-2e, fsh 4330 ft.

WYOMING

BIG HORN—P&R's Govt. 3, 24-56-98, mill on tools at 4234 ft. Westland Oil Inc.'s 1, 24-54-95, sd 360 ft. Wisconsin Holdings, 4-55-97, sd 665 ft. Yellowstone Pete. Co.'s 1, 7-57-97, dr 2800 ft, last report.

CARBON—C. E. Bivens et al's Baggs 1, 35-13-92, 25M at 2172 ft, dr 2275 ft.

CONVERSE—Pioneer Oil Co., 1, 5-31-70, td 3200 ft. Jno. Ackard's 1, 21-31-69, abn 3461 ft.

FREMONT—Texas Prod. Co.'s State 1, 36-34-95, dr 3600 ft. P & R's 1, 33-34-92, dr rotary 1850 ft.

HOT SPRINGS—Midwest's Weeks 8, 6-44-98, ur and co 1970 ft. Ohio's Smith 1, 8-46-99, recem 4403 ft. Gebo Cons.' 1, se 23-44-95, coring below 1335 ft.

JOHNSON—United Oil Co.'s 1, 7-47-82, sd 1700 ft.

LINCOLN—Midwest's Grey's Giver 1, 25-37-117, cas 1986 ft. Mtn. Oil Corpn.'s 1, 36-25-115, run 15½-inch at 815 ft.

NATRONA—Midwest's Midway 1, se 23-35-79, dr 3520 ft. Casper Prod. Co.'s 1, 36-36-11, mvg in.

PARK—P & R's Pitchfork 1, 14-48-102, dr 2730 ft. Resolute Oil Co.'s 1, 17-27-101, dr 5310 ft. Cody Pete. Co.'s Danker 1, se 22-57-98, collapsed cas at 2200 ft, td 3300 ft. Honolulu Cons., 14-48-102, ur at 2130 ft. Yellowstone Pete Corp.'s 1, 7-57-97, dr in Madison at 3725 ft.

SWEETWATER — Vermillion Oil Co.'s 1, sw 16-12-99, 10-inch cem 2650 ft, to test gas.

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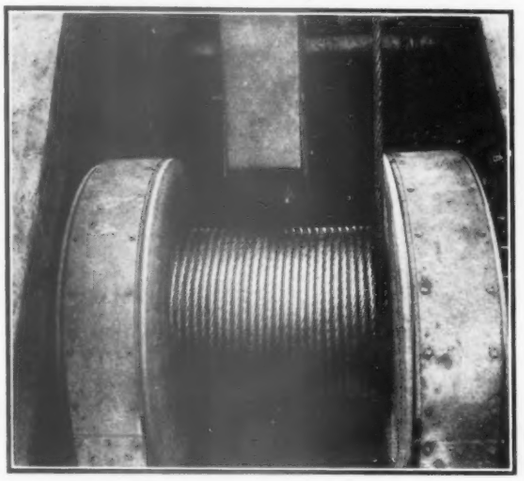

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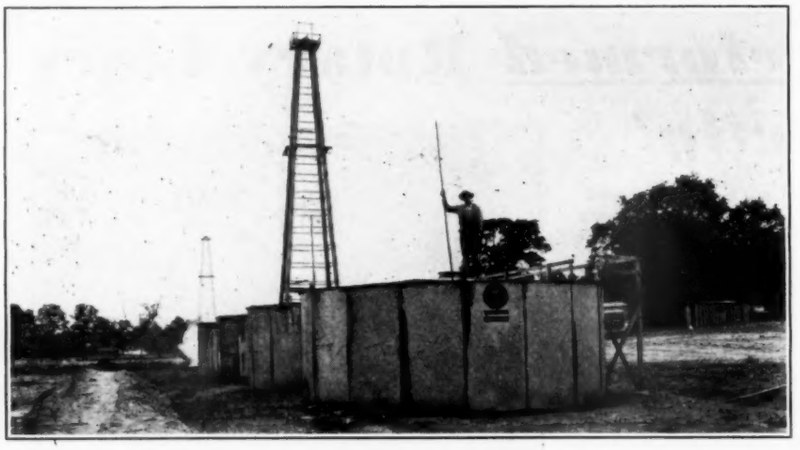

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ADAMS—N. M. Slatt, Hill 1, se 27-25-64w, dr 1955 ft.

ARAPAHOE—McDebb Drlg. Co., Fitzsimmons 1, 7-45-66, prep to run 4¾-inch to 5692 ft.

ARCHULETA — Outwest Inv. Co.'s Fitzhugh 1, se 34-33n-1e, ready to spud.

BACA—A. R. Jones Oil & Optg. Co.'s Boice Cattle 1, n½ 22-34s-42w, spdg 50 ft.

BENT—Continental's Pipe Springs 1, se 27-27-49, fsh 6075 ft.

BOULDER—Reliance Oil Co.'s Erickson 1, nw 33-2n-70w, dr 3145 ft.

DELTA—Crawford O&G Co.'s McKissen 1, ne 28-15s-91w, dr 1100 ft.

DOLORES—Transcontinental's Glade 1, nw 30-41n-16w, co 5950 ft.

DOUGLAS—Perry Park Oil Co.'s Cannon 1, nw 11-9s-69w, lcn.

FREMONT—Westerville Oil Co.'s State 1, nw 16-18-69, sd 1214 ft. Hammond & Roscoe's Beltrame 1, se 1-19s-70, sd 1800 ft.

GARFIELD—Fulton Pete Co.'s Permit 1, ne 8-8s-102w, rig up.

JACKSON—Midwest Refining Co.'s Rich 21-X, nw 9-6n-80w, ur 3735 ft. P & R, Hendershot 1, ne 2-6n-81, sd 4000 ft, prep to core drill.

JEFFERSON—Ruby Hill O&G Co., Braden 1, se 24-4s-59w, co 3568 ft.

HUERFANO — Parker Club and Kinney-Coastal, Fee 1, se 4-28s-69w, fsh cas at 4116 ft. Elliott et al, Abeyta 1, nw 31-27s-65w, lcn.

LAS ANIMAS—Trinidad Dev. Co., Flontz 1, se 23-32-63, stand 2700 ft, water trouble. American Helium Gas & Oil Co., Boling 1, sw 3-29-60, locating new test.

LARIMER—Mosher et al's Reed 1, nw 28-4n-69w, bailer lost 3160 ft. Barrows et al's Barrows 1, se 7-11-68, sd 2310 ft. Deininger et al's Rembey 1, nw 35-4n-70w, res at 354 ft. Standard of Colo.'s Hertha 1, nw 21-4n-69w, fsh 2831 ft. Erbe Oil Co.'s Monroe 1, ne 26-11n-69w, lcn.

LA PLATA—McGarr Pete Corp., Red Mesa 1, ne 27-33n-12w, dr 1450 ft. Detroit Oil Assn., Olbert 1, se 9-35n-12w, dr 2700 ft.

LINCOLN—Kelly Oil Co., State 1, ne 36-14n-57w, stand 3380 ft.

MESA—Argo Oil Co.'s Hoel 1, ne 23-8s-104w, sdtr at 2745 ft.

MOFFATT—Vermillion O&G Synd., 1, se 23-9n-100w, stand at 642 ft. Texas Prod. Co.'s Berlin 1, ne 9-12n-100w, cas ur to 2565 ft. Midwest's Hannawalt 24, 4-6n-92w, 30M at 2857 ft, sd for orders. Mtn. Fuel Supply Co., 25-12-101, plug back to gas at 2180 ft. Mtn. Fuel Supply's Musser 1, 5-11-97, dr 300 ft. S. H. Keoughan et al's State 1, sw 16-4n-101w, dr 485 ft.

MONTEZUMA—Hallet et al, Hallet 1, ne 32-36n-14w, dr 915 ft.

MONTROSE—Uncompahgre O&G Co.'s Colorado 1, ne 27-50-10, res 2031 ft.

MORGAN—Ind. Terr. Illum. Co.'s State 1, ne 16-1n-7w, dr 1720 ft.

PARK—So. Park Oil Co.'s Milligan 1, se 13-8s-76w, dr 110 ft.

PUEBLO—Beulah Dome Co.'s Hedland 1, se 7-23-67w, sd 932 ft.

RIO BLANCO—Texas Prod. Co.'s Potter 1, sw 30-2n-69w, test 2M gas at 5987 ft, and blowing to clean out. Magnolia Pete Co.'s Fordham 1, sw 9-2s-96w, dr 4200 ft.

ROUTT—Gillespie et al, Omholt 1, se 29-4n-87w, ready to spud.

WELD—Platte Valley Pete. Corp.'s Patterson 1, sw 24-6n-61w, show oil at 6229 ft.

WASHINGTON—Middlemist Oil Co.'s Middlemist 1, se 14-4s-56w, set 15½-inch at 1030 ft.

YUMA—Phillips Pete, Andrews 1, nw 3-2s-42w, ur to 5055 ft.

MONTANA

CASCADE—Piegan et al's 36-20n-3w, dr 2500 ft. Andover Oil Co.'s Floweree 1, se 20-21-2w, dr 500 ft.

FERGUS—Melton Corp.'s 1, sw 24-21n-17e, resuming at 2700 ft.

GALLATIN—California Co.'s Ringling 1, se 35-5n-7e, dr 4820 ft.

GLACIER — Glacier Oil Co.'s Omsberg 1, nw 33-35-5w, fsh 800 ft. Kootenia O. & G. Co.'s 1, 13-35n-6w, sd 700 ft. Fulton Pet. Corp.'s Blackfeet 1, ne 28-36n-12w, moving in. O'Neil's Michaelson 1, se 28-36-5w, dr 150 ft.

GOLDEN VALLEY—Golden Valley Oil Co.'s 1, se 28-6-22, dr 800 ft.

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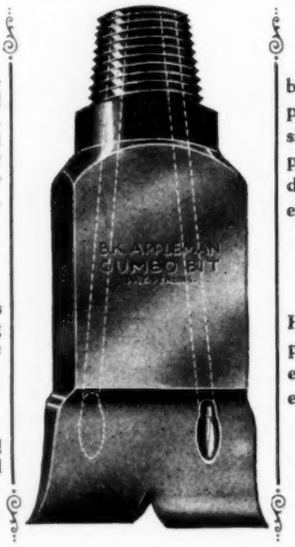

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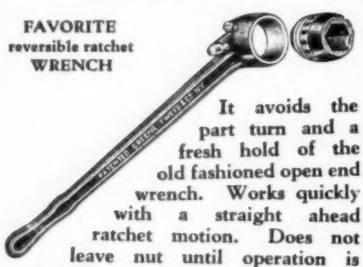
WRENCH



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son's Thompson 1, sw 7-34n-4e, plugged back to gas at 2378 feet. Northland O. & G. Co.'s Yurman 1, 35-33n-6e, dr 2040 ft, carrying 10-in. Sunburst O. & R. Co.'s Watford 1, ne 18-36n-68, shooting Baskoo production at 2345 ft. Sunburst's McLaren 1, se 9-37-6e, dr 1000 ft.

MUSSELSHELL — Minnesota-Flatwillow's Ivanhoe Dome test, 7-11-31, to resume.

PETROLEUM — Minnesota-Flatwillow's 2, sw 5-12n-25e, reaming to set cas 1840 ft. Oregon-Flatwillow Oil Co.'s 1, 3-13n-26e, td 200 ft.

PONDERA—Miller Bros.' Bruins 1, nw 17-28n-1w, rig up.

ROSEBUD—Prairie O. & G. Co.'s N. P. 1, 9-10n-39e, sd 2310 ft. Prairie's N. P. 3, 26-10-39e, dr on iron 2545 ft. Prairie's N. P. 4, 28-10n-38e, sd 65 ft.

SHERIDAN—Sheyenne O. & G. Co.'s 1, nw 15-36n-53e, to res 1400 ft.

TETON—Andover Oil Co.'s Carlson 1, ne 5-24n-4w, td 300 ft. Newman et al's Fitzgerald 1, 26-32n-1w, rig up. Rocky Mtn. O. & G. Co.'s Salmond 1, ne 4-23n-8w, dr 1700 ft. Earl Oil Co.'s Gad 1, se 22-22n-82, cemt 12½-in at 2006 ft.

TOOLE—Anaconda Pet. Co.'s Barthelote 1, ne 19-36n-2w, sd 1600 ft. John Thomas et al's Buckley 1, ne 1-37-4w, td 1645 ft. Black Gold Pet. Co.'s Syrs 1, sw 30-36-28, 500 ft oil in sand at 2450 ft. Mont. Oil Corp.'s Beaupre 1, se 32-37-1w, dr 300 ft. Internal Roy. Hold. Co.'s Henry 1, se 26-35-3e, dr 2020 ft. Carnegie Pet. Co.'s Gigney 1, se 28-36-4w, dr 500 ft.

VALLEY—T. P. Jones' 1, nw 31-37n-38e, cemt 620 ft.

OKLAHOMA

WOODS COUNTY—T 28n, R 16w, Sec. 23, Peerless Oil Co., Cromwell 1, c nw ne, show gas and hfw 6135 ft, dr cement.

GRANT COUNTY—T 28n, R 4w, Sec. 12, Boucher et al, Dedmon 1, sw c se, td 5070 ft, pulling pipe.

WOODS COUNTY—T 27n, R 16w, Sec. 23, Sinclair, Share 1, c ne sw, rur 6790 ft.

ALFALFA COUNTY—T 27n, R 11w, Sec. 12, Smith Bros., Forbes 1, ne c se nw nw, sd 1420 ft.

KAY COUNTY — T 27n, R 2e, Sec. 17, Blankenship et al, Hansen 1, sw c nw sw, hfw 1865-1910 ft, dr 2210 ft.

HARPER COUNTY—T 26n, R 24w, Sec. 14, Sinclair, Howell 1, c sw sw, td 8578 ft, r.u.s.t. T 25n, R 20w, Sec. 12, Empire, Bruce 1, sw c ne ne sw, water 5030-37 ft, dr 5115 ft.

WOODS COUNTY—T 25n, R 15w, Sec. 10, Bu-Vi-Bar et al, Fee 1, se c sw, sd 6104 ft.

GRANT COUNTY—T 25n, R 4w, Sec. 22, Cowden, Vollmer 2, ne c se ne sw, lost tools, sd 5640 ft.

ALFALFA COUNTY—T 24n, R 11w, Sec. 14, J. V. Bailey et al, Acre 1, c sw ne 8-inch at 4660 ft, woc.

GARFIELD COUNTY—T 24n, R 6w, Sec. 9, Pulse & Beamer et al, White 1, se c nw, hfw 4370-4800 ft, hfw 5566-70 ft, td 5580 ft sd.

WOODWARD COUNTY—T 23n, R 17w, Sec. 23, Transcontinental & Prairie, Wilbur 1, ne c dr 7251 ft.

GARFIELD COUNTY—T 23n, R 4w, Sec. 32, Shell et al, Loomis 1, c nw nw, 3M gas 5584 ft, dr 5686 ft.

NOBLE COUNTY—T 22n, R 1w, Sec. 28, Gypsy et al, Berstram 1, se c nw, show oil 5063 ft, dr 5085 ft.

WOODWARD COUNTY — T 21n, R 19w, Sec. 15, Burgoyne Bros., Merklin 1, sw c se ne, sd 1910 ft.

BLAINE COUNTY—T 19n, R 10w, Sec. 13, Washoma Pet. Co., Phillips 1, c nw sw, ur 8-inch 3220 ft, td 3225 ft, hfw.

LOGAN COUNTY—T 18n, R 3w, Sec. 33, Healey et al, Quier 1, se c sw, td 3970 ft. T 17n, R 4w, Sec. 34, Eason Oil Co., Katchor 1, sw c ne sw, dr 700 ft. T 17n, R 1e, Sec. 22, Prairie & Slick, Sims 1, ne sw se, dr 4562 ft.

KINGFISHER COUNTY — T 16n, R 7w, Sec. 6, Galt Brown, Boch 1, c nw se, (owdd), sd 6022 ft.

LOGAN COUNTY—T 16n, R 1w, Sec. 33, Prairie & Slick, Morgan 1, c nw ne, dr 4665 ft.

PAWNEE COUNTY—T 23n, R 5e, Sec. 15, Cochran et al, McFadden 1, ne c sw, rig.

OSAGE COUNTY—T 23n, R 6e, Sec. 28, Western American 1, nw c se, dr 1050 ft.

PAWNEE COUNTY—T 22n, R 3e, Sec. 26, Wentz Oil Corp., Lillie 1, se c sw ne, rig

PROGRESS

"Here, Lad—

If we're going to adopt your friend here, ARC WELDING, you'd better start looking for some men to work with him. On what basis will you hire them?"

TRADITION

The Lincoln "Stable-Arc" Welder

— welds easier
— makes better welds
— permits greater output because of the steady uniform arc throughout entire welding range, which is the result of:

Variable voltage design
Laminated magnetic circuit
Separately-excited generator field
Double control of welding heat
All steel construction

No other welder has all these features.

"Easy, Pop—

The same way as I would buy the welding machines, viz:

With Men—	*With Machines—*
Has their experience with arc welding been a full time or part time job?	The Lincoln experience in making arc welders occupies their full time thinking and working.
Have they achieved any distinction for doing a good job?	The Lincoln people originated, developed and, by close specialization achieved principles that have made commercial arc welding possible—and profitable. (See list above.)
Has their services been in demand?	Just count the Lincoln 'Stable-Arc' welders in service.
Have they set a standard that others have endeavored to emulate?	Back in 1914 when Lincoln advocated variable voltage machines they were severely criticized. Do you hear any criticism today? Lincoln specialized engineering didn't wobble. That's why they've been so successful — proving again that the will you *leave* depends upon the will you *have.*"

The Lincoln Electric Co., Dept. No. 33-6, Cleveland, O.

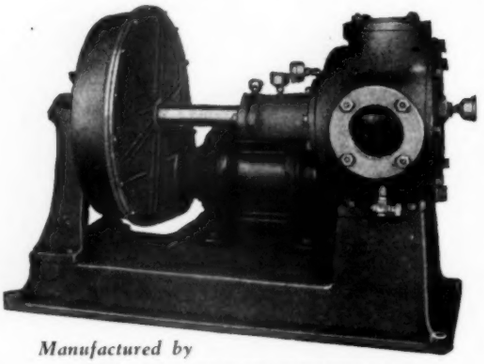
"Stable Arc"

LINCOLN WELDER

W-145

To Handle Large Volumes Quickly and Efficiently Use

VIKING Standard Motor Driven Pump



Note the compactness of the entire outfit which requires a minimum of floor space. The pump and motor are mounted on a cast iron base and connected by a fibre pinion and machine cut gear which run in an oil tight case. It is constructed extra heavy throughout, making it a very rigid and serviceable outfit. It is made in four models and suitable for use with motors up to 1200 RPM.

Get complete details of every model from our engineers and pump specialists.

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GOTT Water Cans 1½ gal; 3 gal; 5 gal; and 10 gal.
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H. P. GOTT MFG. CO. · Winfield, Kansas
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ging up. T 20n, R 5e, Sec. 22, J. M. Scott et al, Jones 1, sw c ne, dr 410 ft.

PAYNE COUNTY—T 18n, R 4e, Sec. 6, F. M. Marrs et al, Tietz 1, sw c nw se, lcn.

LINCOLN COUNTY—T 17n, R 2e, Sec. 28, Thurman, Deaner et al, Stufflebeam 1, ne c sw, rigging up rotary. T 16n, R 2e, Sec. 35, T. B. Slick, Hammer 1, se c sw nw, dr 5200 ft. T 16n, R 4e, Sec. 2, Deep Rock et al, Prowant 1a, nw c ne nw, dr 3675 ft. T 14n, R 6e, Sec. 5, Atlantic, Ryan 1, se c nw, lcn. T 13n, R 4e, Sec. 2, Magnolia Pet. Co., Winship 1, ne c sw, dr 2310 ft.

OKFUSKEE COUNTY—T 13n, R 9e, Sec. 14, Flynn & Morgan, Burton 1, ne c sw se, Wilcox 3841-51 ft, hfw, plugging. T 13n, R 9e, Sec. 15, A. Erwin et al, Allen 1, se c sw ne, Wilcox 3789-95 ft, hfw sd. T 12n, R 9e, Sec. 36, Henry Oil Co., Harjo 1, nw c, sd 2785 ft. T 12n, R 10e, Sec. 3, Sheppard et al, Sheppard 1, se c nw sw, 3-inch at 3675 ft.

MUSKOGEE COUNTY—T 11n, R 19e, Sec. 21, E. Mills et al, Martin 1, nw c se, sd 1001 ft.

PITTSBURG COUNTY—T 9n, R 16e, Sec. 32, Pattison et al, McDuff 1, sw c nw se, Wilcox 5556-60 ft, drilling bridge.

HASKELL COUNTY—T 9n, R 18e, Sec. 10, Marion Oil Co., Sanders 1, nw c ne sw, 2M gas at 1800 ft, sd 2692 ft.

LATIMER COUNTY—T 5n, R 18e, Sec. 23, Limestone O&G, Shaw 1, nw ne nw, show gas 3100-10 ft, dr 3300 ft.

OKLAHOMA COUNTY—T 14n, R 3w, Sec. 32, Mid-Kansas, Messer 1, sw c, dr 2490 ft. T 13n, R 3w, Sec. 17, Prairie & Slick, Dills 1, c se nw, dr 6225 ft. T 13n, R 3w, Sec. 35, Magnolia-Ramsey, Johnson 1, ne ne sw, td 6284 ft, td 6506 ft, show, run 6-inch. T 13n, R 1w, Sec. 13, Tom Slick, Martin 1, c nw nw, td 6965 ft, plugged back 6625 ft, woc 6737 ft. T 12n, R 4w, Sec. 17, C. F. Cuniff, Trustee, St. Joseph Orphanage 1, sw c ne sw se, dr 6200 ft. T 11n, R 2w, Sec. 3, Ryan Consolidated, Lawton 1, ne c nw, td 6558 ft, bailing.

CLEVELAND COUNTY—T 6n, R 1e, Sec. 20, Brownfield, Corber 1, c sw ne, 6-inch at 6190 ft.

HUGHES COUNTY—T 9n, R 12e, Sec. 29, Canady et al, Kanard 1, nw c sw, sand 3510-3625 ft, hfw dr 3682 ft.

ROGER MILLS COUNTY—T 12n, R 24w, Sec. 23, Bucy & Stone, Williams 1, c sw, sd 2243 ft. T 11n, R 26w, Sec. 4, J. J. Rook, Davis 1, c nw ne, sd 2840 ft.

BECKHAM COUNTY—T 10n, R 22w, Sec. 29, Roy Johnson, Brower 1, c nw, dr 2575 ft.

CANADIAN COUNTY—T 1n, R 6w, Sec. 1, J. V. Bailey, Robinson 1, c ne nw, sd 150 ft.

WASHITA COUNTY—T 9n, R 20w, Sec. 10, Southern Inv. Co., Musie 1, nw c, sd 300 ft.

BECKHAM COUNTY—T 8n, R 22w, Sec. 20, Carson et al, Denby 1, sw c se ne, sd 1700 ft.

GREER COUNTY—T 7n, R 22w, Sec. 1, Roy Good et al, Cliffel 1, ne c, sd 1050 ft. T 6n, R 24w, Sec. 17, I. T. I. O. et al, Fee 1, c ne, dr 2286 ft.

CADDO COUNTY—T 6n, R 11w, Sec. 24, Simms Pet. et al, 1, c se nw, lcn.

HARMON COUNTY—T 4n, R 24w, Sec. 17, Harmon-Tex Oil Co., Headley 1, ne c, sd 2000 ft.

COMANCHE COUNTY—T 3n, R 9w, Sec. 3, Okla. Nat. Gas Co., Doebel 1, ne sw sw sw, sd 1450 ft.

STEPHENS COUNTY—T 1s, R 9w, Sec. 3, Pelwin Oil Co., Perdy 1, nw c nw ne ne, rigged up and sd.

PONTOTOC COUNTY—T 5n, R 6e, Sec. 8, Magnolia & Twin State, Killcrease 1, sw ne ne, sd 3365 ft.

HUGHES COUNTY—T 5n, R 10e, Sec. 30, Erwin et al, Jones 1, se c ne, hfw 1860-70 ft, fsh 3685 ft. T 5n, R 11e, Sec. 15, J. J. Wright, Roberts 1, se c sw, 2M gas 915-18 ft, sd 1106 ft.

GARVIN COUNTY—T 4n, R 3e, Sec. 10, C. R. Obermeyer, Stricklin 1, ne c sw, r.u.s.t. 2680 ft.

COAL COUNTY—T 3n, R 9e, Sec. 26, Blackwell, Gumm 1, nw c, rotary rig.

MURRAY COUNTY—T 2n, R 2e, Sec. 27, Cheatton Royalty Co., Hendricks 1, sw c se nw, dr 1550 ft.

COAL COUNTY—T 1n, R 8e, Sec. 11, W. E. McCraw, King 1, c sw ne (owdd) co 2975

IDEAL

TRAVELING BLOCK

76 INCH TYPE C

42-INCH DIAMETER SHEAVES WITH A.P.I. GROUND GROOVES, ROLLER BEARINGS, 8¾-INCH CENTER PIN, BUILT-IN GUARD, ALL STEEL CONSTRUCTION, 9000 POUNDS WEIGHT.

Descriptive Bulletin
No. 92
Sent on Request

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The T-I-W-CHRISTIAN gives you all the advantages of a short bit and a long bit, without the disadvantages of either.

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The American Well Works manufactures a complete line of oil well pumping units. They are made in a wide variety of sizes permitting a length of stroke of from twelve to fifty inches. All gears are enclosed and run in a bath of oil. Used throughout the oil fields of the world. Catalogs and engineering data upon request.

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THE AMERICAN WELL WORKS
General Offices AURORA, ILLINOIS and Factory

ft. T 1n, R 9e, Sec. 31, A. M. Van Orden et al, Foshee 1, sw c ne, fsh 1175 ft.

ATOKA COUNTY—T 3s, R 10e, Sec. 18, Brookshire et al, Guinn 1, nw c, sd 80 ft.

CARTER COUNTY—T 4s, R 2e, Sec. 32, Tex-Okla. Drlg. Co., Anderson 1, se c ne se, fsh 2580 ft.

LOVE COUNTY—T 6s, R 3w, Sec. 20, Harry Hobbs, Steele 1, sw c ne ne sw, sd 2515 ft.

BRYAN COUNTY—T 6s, R 7e, Sec. 14, W. A. Johnson, Ussery 1, se c, sd 325 ft. T 6s, R 9e, Sec. 35, O. P. Bush, Commerce Trust Co., 1, ne c, dr 600 ft.

LOVE COUNTY—T 8s, R 1e, Sec. 13, Gilcrease Oil Co., Burkhart 1, ne c nw, lcn abn.

MISSISSIPPI

ALCORN COUNTY — Alcorn Pet. Co.'s Matthews 1, 14-2-7, sd while fsh for 4 joints 6-inch cas preparatory to running 5 3/16-inch cas at 2393 ft, td 2735 ft.

CHICKASAW COUNTY — Hightower & Golsan's Fleming 1, 20-13-3w, fsh for 127 ft 8¼-inch pipe collapsed at bottom of hole, td 1414 ft; Fleming 2, 15-13-2w, dk pat.

HINDS COUNTY (Jackson Dist.) — Mrs. Ella Rawls Reeder's State Land 1, 25-6-1e, fsh for 400 ft 4-inch dr pipe, td 2905 ft. Jackson O&G Co.'s Mayes 1, 2-5-1e, supplying gas to nearby test thru separator, td 2585 ft; Taylor 1, 35-6-1e, set 6⅝ cas 2894 ft, sd in igneous material, arr abn as dry, td 3245 ft. Central Cotton Oil Co. 1, 3-5-1e, dk. Love O&G Co.'s Gordon 1, 2-5-1e, rig up. Love Pet. Co.'s Mendoza 2, 12-5-1e, rigged up and sd, high water. Interior O&G Co.'s Mayes 1, 2-5-1e, dk. Tri State O&G Co.'s E. S .Wilson 1, 23-6-1e, dk. Dome O&G Co.'s Elton 1, 5-4-1e, set 9-inch cas 818 ft, r to bottom, td 1329 ft. Universal Gas Co.'s Holliday & Ross 1, 8-6-2e, sp wo ds. Cane River O&G Co.'s Lufkin 1, 15-5-1e, sp dr packed sand 300 ft. Ohio Oil Co.'s School Board 1, 16-5-1e, lcn. La. Gas & Fuel Co.'s Toole 1, 28-6-1e, rig up.

KEMPER COUNTY (De Kalb Dist.) — W. W. Jones' Rosenbaum 1, lcn not given, dk.

LA FAYETTE COUNTY—F. E. West et al's May 1, 22-10-1w, rigged up wo.

LAUDERDALE COUNTY (Meridian Dist.) Lauderdale O&G Co.'s Lackey 1, 2-7-16, set 8¼-inch cas 2790 ft, sd 3435 ft. Meridian Nat. Gas Co.'s Mattie Houser 1, 33-8-18, sd in sandy shale 2826 ft.

MONROE COUNTY (Amory Dist.)—Amory Dev. Co.'s Bourland 1, 2-13-19, arr resume dr in lime, td 2912 ft. Park Bowser's Cowart 1, 2-12-19, arr resume dr at 85 ft.

RANKIN COUNTY (Jackson Dist.)—Gulf Ref. Co.'s Rainey 1, 13-5-1e, base chalk 2848 ft, dr igneous material 3458 ft. Interior Oil Co.'s Moore 1, 28-6-2e, wo 10-inch cas to set 900 ft, sd high water. Pearl River O&G Co.'s Littlefield 1, 12-5-1e, set 15½-inch cas 45 ft, dr 400 ft.

WARREN COUNTY (Vicksburg Dist.)—Henderson et al's Dornbusch 1, 8-18-15, sd wo with ds stuck in hole, td 2475 ft.

WEBSTER COUNTY — Cumberland Oil Co.'s Henley 1, 15-21-11, TA 1865 ft.

YALABOUSHA COUNTY (Water Valley Dist.)—J. D. Collette et al's Blackmer 1, 14-11-4w, topped red beds 2316 ft, sdtr at 900 ft, dr new hole 2000 ft, old td 2434 ft.

ALABAMA

HOUSTON COUNTY—J. R. Sealey's Fee 1, 13-1n-27e, changing from cable tools to rotary, td 3100 ft.

LAUDERDALE COUNTY — P. J. McAlpine's O'Neal Hrs. 1, 8-2s-13w, sd in hard white lime, wo 8¼-inch cas, td 1712 ft.

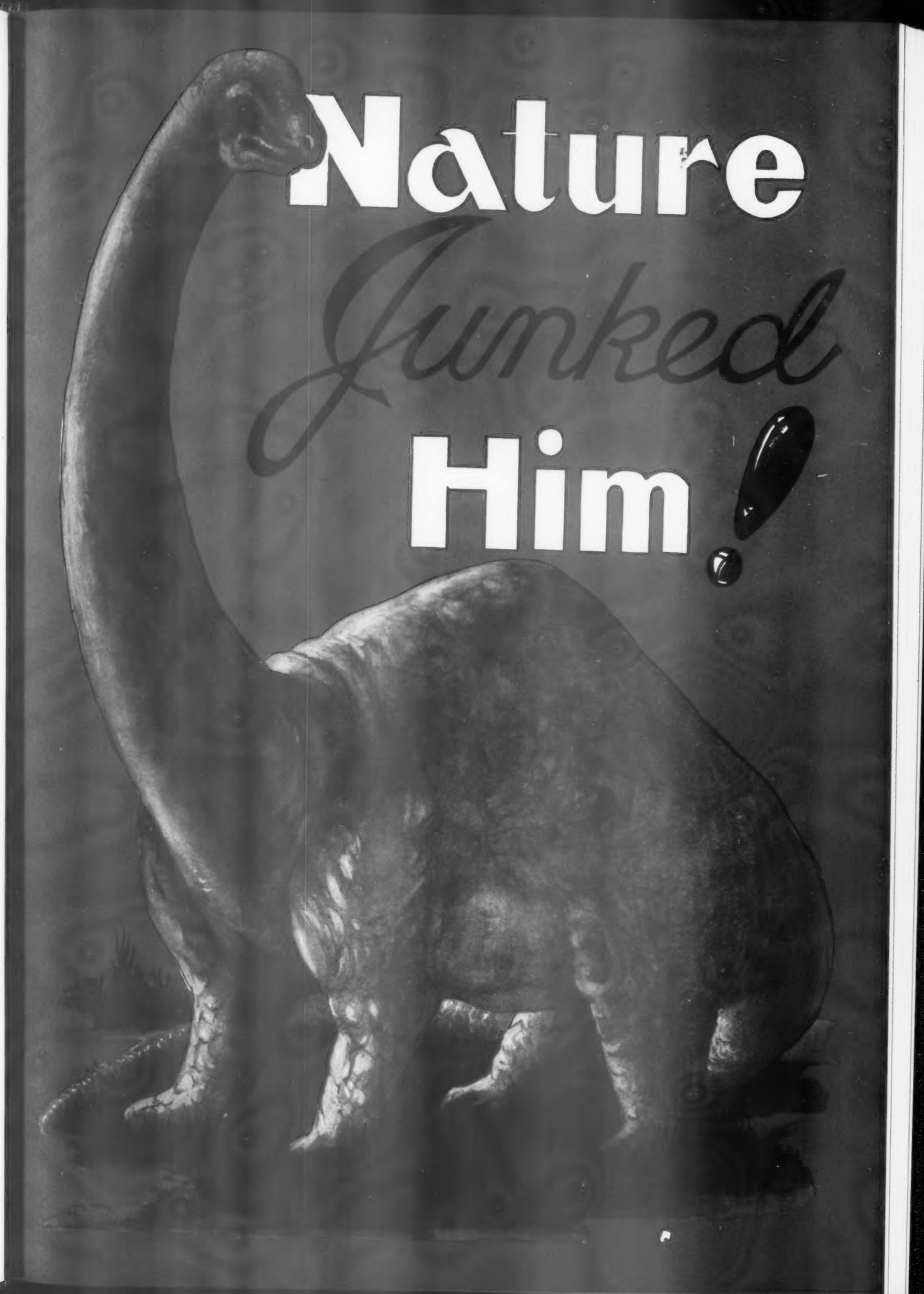
MORGAN COUNTY—Albany-Decatur O&G Co.'s English 1, 6-6-4, fsh for cas, td 4130 ft.

SUMTER COUNTY—B. W. Bates' Fee 1, 3-18-1w, TA 1200 ft; Fee 2, 3-18-1w, rigged up wo.

WASHINGTON COUNTY—Hobson et al's Wilson 1, 27-7-1w, sd in limey shale 881 ft; Hobson Bros. 1, 9-8-2w, sd 1450 ft. Oscar Brown's U. S. Land & Cotton 2, 25-3-2, last report dr below 720 ft, no recent report.

TENNESSEE

DECATUR COUNTY—Chester County O&G Co.'s Montgomery 1, set 6-inch cas 1043 ft, sd 1881 ft.


Nature
Junked
Him!

The Dinosaur Couldn't Keep Up With The Times!

MILLIONS of years ago when the world was young the Dinosaur roamed the lands—taking life in a listless manner—exerting no energy and caring not what happened next. Then when the temperature underwent a radical change the Dinosaur made no effort to adjust himself, and Nature promptly Junked Him.

B. S. & B. keep well informed on the needs of the oil men and are always alert to varying conditions, make every possible endeavor to keep apace with the requirements of the oil industry.

B.S.&B. Perfection Vapor Pressure STEEL TANKS

We maintain a staff of Engineers who are constantly experimenting on every part of the tank —to make a Good Tank "BETTER," if possible. Design—Bolts—Gaskets—Metal—Paints, etc., are constantly being tested. When it was realized that loss of the lighter fractions of the crude is a wanton waste, with the open top or atmospheric pressure tank, we proceeded, after long and careful experiments, to perfect a tank to save those valuable vapors and still be able to withstand the pressure caused by their expansion. Thus the birth of the B. S. & B. Vapor Pressure Tanks.

When it was found that steel tanks used in Southwest Texas and the Panhandle District corroded, due to the high percentage of hydrogen sulphide gas, we perfected a Wood Vapor Pressure Tank.

B. S. & B. Tanks are keeping up with the ever-changing conditions in the industry.

Are Scientifically "Perfection"

B. S. & B. Tanks of copper-bearing steel have a flange type construction (four layers of metal plus a special packing) that insures the tanks being vapor pressure tight and "perfectly" strong. The sloping segmental deck, reinforced with rafter angles, which prevents buckling or warping under pressure or vacuum, an inside ladder, angle iron tie rods, all of which make the tank stronger.

Another feature is the B. S. & B. Thief Hole Pressure Vacuum Valve, which operates at 16 ounces pressure or 2 ounces vacuum. In this manner this tank retains the light fractions of the crude, thereby saving your crude and maintaining its original gravity. This valve works automatically and is regular equipment on all B. S. & B. Vapor Pressure Tanks. It protects the tank as the tank proves to be "The Watchdog of Your Crude."

"Service on the Dot—Service on the Spot"

Unlike the DINOSAUR—slow and sluggish—B. S. & B. Service is full of speed and pep. It's pronto —right now! In a few hours after the order is placed our own trained tank crews are on your location erecting the tanks. Our fifty branch stations, well located throughout the Mid-Continent and Rocky Mountain Fields, and extending to Okotoks, Alberta, Canada, and Maracaibo, Venezuela, South America, our army of B. S. & B. Service men and fleet of trucks are all maintained to perform our Watchword of Quick Service. And—B. S. & B. Service continues after the tanks are erected and performing "perfectly."

B.S.&B. Vapor Pressure WOOD TANKS

This tank is impervious to corrosion due to the hydrogen sulphide gases found in your crude. It is constructed on the same principle as the Vapor Pressure Steel Tanks, but is made of Redwood with all metal parts on the inside insulated with wood. These tanks equipped with the B. S. & B. Vapor Pressure Valve that operates automatically, are made in **250 barrel, high 500 barrel, low 500 barrel and 1000 barrel sizes.**

A.P.I.

We also manufacture A.P.I. Tanks. B. S. & B. A.P.I. Tanks conform to the A.P.I. Dimensional Standards and the exacting standards of B. S. & B. Manufacture. All these tanks have A.P.I. official Monogram.

B S & B EFFICIENT SERVICE DEPENDABLE

Black Sivalls & Bryson INC.
BARTLESVILLE - OKLAHOMA

Our Watchword QUICK SERVICE

Let us discuss in detail the many features of the B. S. & B. Tanks that you will never "JUNK." Just write Dept. X-6 for our catalog and literature, or better still a representative, who is near you NOW!

They first made sure of the Right Pipe!

IT is a costly job to lay several lines of pipe across a stream—costly in time, labor, and extra material and equipment involved. Experienced engineers know just where to begin in making certain that the investment will be properly safeguarded. They first make sure of the right pipe—knowing that this is the foundation of successful submerged pipe lines.

The photograph above shows one of the crossings of a 200 mile, 18-inch, NATIONAL Pipe line. Laying of this line involved crossing the Mississippi and four other rivers in addition to swamps, stretches of gumbo, etc.—a job requiring sound engineering practice and reliable materials.

The extensive use of NATIONAL Pipe for lines involving exceptional engineering difficulties is substantial evidence of the dependability of this product for installation where future repairs would be costly with possible extended delay of service. Dependability under all conditions of service is the first requirement in the manufacture of NATIONAL Pipe—one of the reasons why NATIONAL is

AMERICA'S STANDARD WROUGHT PIPE

NATIONAL TUBE COMPANY · Pittsburgh, Pa.
Subsidiary of United States Steel Corporation

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Where Skeeter Chasers *Become* Necessary Equipment

By GEORGE REID

FREEPORT Sulphur Company is now drilling its first well for oil, selecting for this venture a recently discovered salt dome south of Morgan City, Louisiana, and about one mile inland from the Louisiana Gulf Coast line.

This dome was located by the Geophysical Research Corporation employing the seismograph and is known as Point Au Fer. A land route to the site, if such a thing existed, would place the well at 35 miles south of Morgan City. However, like scores of swamp drilling locations in southern Louisiana, this site can be reached only by water route. The course leads down the Atchafalaya River, across Atchafalaya Bay, down a bayou for two miles and then through 3000 feet of canal which was dredged by the company of sufficient width and depth to accommodate the barges used to bring in materials and the house boats provided for drilling crews. The total water route distance is slightly over 40 miles and all materials and supplies for the drilling operation and the crew must be barged in from Morgan City.

K. T. Price, Freeport Sulphur Company, in charge of operations at Point Au Fer, where his company is drilling for oil on a recently discovered dome. At left is Ben Talbot of the contracting firm of Talbot & Markles

Freeport Sulphur Company's F. G. Nelson No. 1 at Point Au Fer, 35 miles south of Morgan City, Louisiana, which is the first well to be drilled by the company for oil

Within one quarter of a mile from the site there is a large gas seep which blows continually, and this seep is thought to be located on the dome.

As this drilling plant is located so near the Gulf the problem of fresh water for boiler consumption is aggravated. At times when sufficient rains occur the water flowing to the Gulf is reasonably fresh, but for the most part the water supply is very brackish and salty. The operators at this well have installed a horizontal exhaust steam condenser tank into which all of the exhaust steam from the steam driven drilling engine and the large mud pumps is conducted, condensed and returned to the boiler. This cuts down the volume of salty water added to the boilers an lengthens the period of operation, and, adds to the life of the boiler equipment.

Another interesting feature at this well is the device known as a "skeeter chaser." In this area the mosquitoes are a source of continuous harassment to drilling crews, especially when there is no breeze blowing to send the insects to shelter. An enterprising Ford dealer, owning the Drexler Motor Company at Thibadaux, Louisiana, conceived the idea some time ago of providing a device for blowing the mosquitoes away from the derrick floor. Using second-hand Ford motors mounted on a rigid frame of angle iron, and provided with an aeroplane type propeller for fanning, this enterprising motor car dealer has provided very efficient means for ridding drilling crews of the mosquitoes. The contrivances are sold to oil companies and contractors at a price of $150, and it is becoming more and more difficult to employ and hold drilling crews on the job unless the "job" is provided with a "skeeter chaser." A large number of them are in use in the coastal area and it is possible that so far as drilling crews are concerned the Gulf Coast

This Ford motor and propeller or fan is used to blow mosquitoes off the workmen on the derrick floor and is affectionately known as a "skeeter chaser"

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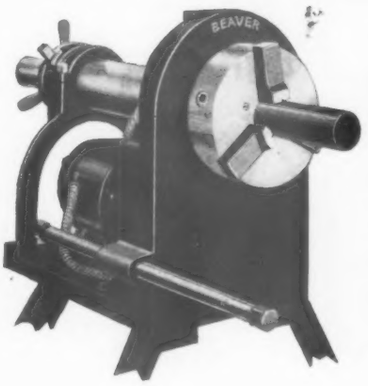

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If you want to cut up to 12 inch and thread up to 6 inch then No. 44 (the slower machine) should be your choice. If you want to cut to 8 inch and thread up to 4 inch then buy the fast machine—the No. 45.

Bulletin "F" gives you full details—and it may prove to be most valuable reading to you.

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To the right is shown the canal dredged by the company to the well site. To the left, small horizontal tank is part of the condenser system for condensing exhaust steam and returning to the boilers

drilling well equipment is of necessity going to have to include a "skeeter chaser" as standard equipment in the original requisitions for materials.

This well is being drilled for Freeport Sulphur Company by the contracting firm of Talbot & Markles. The contract calls for 5000 feet of hole, with a possible continuance down to 6500 feet. The well equipment is all Lucey type, but includes a Regan head and blow-out preventer and Emsco derrick. On May 10 the well record showed 93 feet of 20-inch set, 2267 feet of 12½-inch set, and with 9⅝-inch casing to be set next. The well will be finished with a seven-inch string. As is usual practice in the swamp country the derrick is matted on the marshy site.

Shreveport Geologists Plan Annual Field Trip

Shreveport.—The Shreveport Geological Society will make its eighth annual field trip by bus through Southwest Arkansas on June 14 and 15, according to announcement by William F. Chisholm, secretary. The trip will leave Hotel Grim, Texarkana, at 8 a.m., June 14, and will end at the same point on the night of June 15. The night of June 14 will be spent at De Queen, Arkansas.

The Cretaceous and Comanchean formations as mapped by Carle H. Dane in Bulletin 1, "Upper Cretaceous Formations of Southwestern Arkansas," of the Arkansas Geological Survey, and by Hugh D. Miser and A. H. Purdue in United States Geological Survey Bulletin 808, "Geology of De Queen and Caddo Gap Quadrangles, Arkansas," will be studied

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Permits Up 124 for Five Months in Louisiana

Shreveport.—Drilling permits in Louisiana for the first five months of 1930 show an increase of 124 over the corresponding period in 1929, according to the tabulation of the minerals division of the Louisiana Conservation Commission. The total for the first five months of 1930 is 463 to drill. Permits for all purposes to June 1 this year total 741, as compared to 628 for all purposes to June 1, 1929. Permits to deepen are the same for both years, 34; the same to plug back, two; 217 to abandon, as compared to 228 to abandon in 1929; eight to abandon temporarily, as compared to seven in 1929; three to shoot formation, the same for both years; and 10 to work over, as compared to five in 1929.

During May, this year, 110 drilling permits were issued, as compared to 62 in May last year. Total permits for all purposes, including 46 abandonments, for May this year were 167, as compared to 107, including 36 abandonments last year.

San Antonio, Texas.—Larcro Gas & Petroleum Company of New Jersey is preparing to develop a block of acreage in the northeast corner of Jim Wells County, adjoining the Plateau gas area, and also another block of acreage in the northeast part of Duval County, adjoining the territory upon which the Lyman gas wells were drilled some time ago.

This company is incorporated under the laws of New Jersey, with field office in San Antonio under the direction of J. E. Walsh, an independent operator of San Antonio for the past eight years. Its holdings are mostly in Southwest Texas, its principal lease at present being in the Refugio field, where it has 173 acres, virtually all of which is proven, and only a small percentage of which is drilled. In that field it has two producing gas wells, with gas sales of about 2,000,000 feet daily, and three producing oil wells yielding around 1200 barrels daily.

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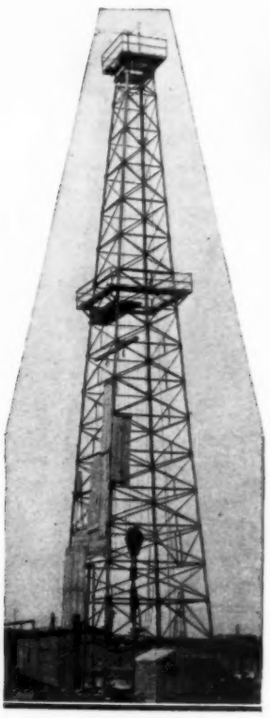

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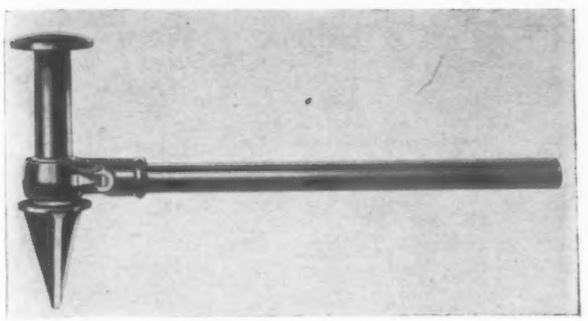


Threader and Reamer

Reamer and Threader

OSTER MANUFACTURING COMPANY AND WILLIAMS TOOL CORPORATION

Oster Manufacturing Company and the Williams Tool Corporation, Cleveland, announce a new threader and reamer for small pipe, a new addition to the Oster-Williams line.

This new chip chaser reamer for one-eighth to three-quarter-inch pipe is announced, together with the No. 001 chip chaser for one-half to one and one-quarter-inch pipe.

The No. 001 chip chaser is built on the same principle as the No. 00 chip chaser, and has the improved open type die head to allow an unusual chip clearance to facilitate oiling the pipe.

No. 001 has four die heads, including one-half, three-quarter and one and one-quarter-inch, and has a ratchet handle. The ratchet is built into the handle out of the way, but is so placed that the operator may reverse the action of the ratchet or put it in neutral position, with an easy flick of the thumb.

The new chip chaser reamer fits the No. 00 chip chaser ratchet handle and has three reaming blades.

Further details are available upon request to the Cleveland plant.

Compressor Bulletin

Sullivan Machinery Company, Chicago, has issued Catalog 83-R, describing the Sullivan vibrationless portable air compressors. The book is 40 pages, and describes the Sullivan line of portable gasoline engine driven compressors, which has recently been increased by the addition of a 66-foot unit. This unit, and the 110-foot, and 160-foot units, are two-cylinder, vertical machines. The 220 and 310-foot units are four-cylinder balanced twin units, the two pairs of cylinders being set at an angle of 90 degrees. The compressors are driven by direct connection to a Buda four-cylinder, four-cycle engine, with the exception of the smallest unit, in which a Continental engine is used.

Full details of these machines and their dimensions are shown. The compressor and engine are equipped with such standard automobile accessories as Bosch magneto with impulse starter, Zenith carburetor with Pierce governor, AC cleaners, slow-down governor, and Imperial primer.

Approximately fourteen pages of the new catalog are taken up with numerous photographic illustrations of the equipment as used in the field.

The book also devotes space to description and listing of the Sullivan portable electric driven units.

New Sand Pump

HOFERER PUMP & MACHINE COMPANY

Hoferer Pump & Machine Company, 5277 Long Beach Boulevard, Long Beach, California, has announced a new all-metal sand pump.

This new sand pump is described in the new bulletin "A" of Hofco pumps and products.

According to the manufacturers, this new sand pump is radically new and different from any other sand pump on the market. The company has patent applied for on the product and claims that its pumping capacity while pumping sand is approximately the same as that of a regular pump for pumping clean oil.

Copies of this new Bulletin "A" describing the new Hofco all-metal sand pump may be had by writing Hoferer Pump & Machine Company at Long Beach.

Pumping Jack

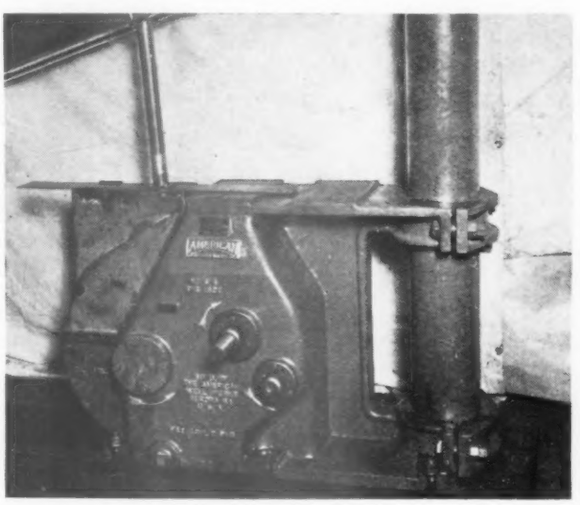
AMERICAN WELL WORKS

American Well Works, Aurora, Illinois, has announced the new "American" type 4-A totally enclosed oil well pumping jack, advancing a number of refinements in design.

The pitman rod in this jack works through a sliding plate which completely covers the slot in the cover, to prevent sand and dirt from blowing into the cover around the pitman rod slot.

This jack was designed for pumping individual wells. The units are self-contained, having all gears enclosed and running in a bath of oil. They are made in a wide variety of sizes to permit a length of stroke from 12 to 50 inches. One man may operate a dozen or more "American" units, inasmuch as the automatic oil features cut down the attention required on the lease. All belt-driven machines are operated by either small motors or small engines. The speed of belt-driven units can be varied by changing the size of the pulley or the motor or engine.

Bulletins giving complete details of mechanical construction and performance under various conditions are obtainable from the company's headquarters, given above.



American Pumping Jack

Manufacturer and Supply Dealer Notes

The Stoody Company, Whittier, California, has issued a handy pocket bulletin on Borium, the diamond substitute of the company, and is mailing copies out through its territorial representatives. Aside from a complete description, illustrated, of this hard facing product, the bulletin carries instructions on application, the amount of Borium recommended for the various sized bits in tabular form, and outlines a brief summary of the electric method of applying hard facing.

Oil City Brass Works, Beaumont, Texas, announces the appointment of H. D. Start, metallurgical engineer, as general superintendent. He formerly served Garrott Brass and Manufacturing Company, Houston, and was connected with Layne & Bowler Company for one year. Oil City Brass Works makes non-ferrous castings and manufactures a number of oil field specialties from iron and steel. The company maintains a Houston sales office and warehouse at 905 Live Oak street, in charge of Henry H. Paris.

Reading Iron Company, Reading, Pennsylvania, which heretofore manufactured genuine puddled wrought iron pipe in sizes from ⅛ to 20 inches in diameter, announces that it has increased its range to include 22-inch and 24-inch in this pipe. The addition of these sizes opens a wide field for Reading Iron Company's products in the natural gas industry and in large high pressure power plants.

Jos. Greenspon's Sons Iron and Steel Company, St. Louis, has opened a branch office in Dallas, to more conveniently serve the industry in that section. C. C. Hurlburt will be in charge of the Texas operations of the company, which also maintains offices in Tulsa.

Hurlburt formerly was assistant to R. D. Gwynne in the Tulsa office. Jos. Greenspon's Sons Iron and Steel Company deals in new and used pipe for the oil country.

Chicago Bridge & Iron Works has opened a new office in Houston, in the Electric building, in charge of J. R. Donaldson, who was formerly in the company's Dallas office.

Maintenance Engineering Corporation, Houston, announces the opening on June 1 of an office and branch warehouse at Fort Worth, in charge of M. A. Hart. According to W. J. Peddie, president of the corporation, the purpose of the new branch is to make stocks more readily available for the North and West Texas territory. Hart, who has been with the company in Houston for the past two years, will cover the territory around Fort Worth and further west.

Principal stocks carried in Fort Worth will consist of forged steel valves, fittings, flanges, tube-turns, cast steel gate valves and cast steel flanged fittings. The company handles refinery, pipe line and power plant specialties. The new Fort Worth office and stocks will be at 500 East Ninth street.

Officers of the Maintenance Engineering Corporation are W. J. Peddie, president; L. J. Burda, general manager; W. B. Rawson, sales engineer.

Oil Field Specialty Company has been organized to distribute a line of specialties, including a derrickman's safety slide, derrickman's safety belt, the Frost vertical generator, and a number of pumping specialties. Headquarters are maintained at the Houston store of the Robert J. Miller Company, 12 Louisiana street. Robert J. Miller, president of his own company, is president of this new organization; T. E. Jackson is vice president and treasurer, and Martin McGarry is secretary.

Boiler Engineering Company, 24 Commerce street, Newark, New Jersey, has published a bulletin titled "How BECO Baffles Modernize Old and New Water Tube Boilers." Numerous illustrations show how to baffle correctly all types of water tube boilers, horizontal and bent tube. Charts are used to show the fuel saving through use of BECO baffles. Old boilers may be equipped with BECO boilers on the job.

General Electric Company, Schnectady, New York, has issued the Industrial Control catalog, GEA-606B, 1930 edition, covering 220 pages. Descriptions, with illustrations, and operating methods are completely outlined on the alternating and direct current hand starters, speed regulators, drum switches and resistors, and magnetic controllers, and accessories, rheostats and resistors, limit switches are covered as are solenoids, solenoid valves, and brakes.

The company has issued a loose-leaf booklet of prices on fabroil gears and a price list on nonmetallic gears and blanks. Loose-leaf sheets for insertion in the General Electric bulletin files have been issued on the CR9440-LS415 hatchway limit switch for control circuits, the general-purpose synchronous motors and the CR3100 drum controllers.

Any of this literature is available upon request to the Schnectady headquarters.

Hughes Tool Company, Houston, has issued a pictorial folder which illustrates the performance of Hughes drilling valve, two of which are installed on the Mary Sudik well, which was brought under control at Oklahoma City, April 6. The folder cover carries a picture of this well running wild, with further photographs in the folder showing the Hughes valves installed. Complete description is given on these valves, along with the spectacular history of the Mary Sudik well.

Regan Forge & Engineering Company, Los Angeles, is following a program of simplifying the classifications of control equipment required in various fields to meet wide ranges of pressure. Engineers of the company have divided the equipment for control service into three classes.

The three classifications of Regan control equipment are now designated as Type A for normal pressures, Type B for medium pressures tested to 3000 pounds, and Type C for high pressures tested to 6000 pounds.

In the higher pressure classifications the flanges, spools, couplings and tubing heads are much heavier in weight. The Type A equipment is built to withstand pressures corresponding to the respective sizes of A. P. I. casing and tubing. The 3000-pound test equipment is tested to 3000 pounds regardless of size of any of the parts, and is equipped with A. E. S. C. 900 series bolting and flanges. Type C equipment is designed for high pressures regardless of size, each part being individually tested to 6000 pounds. Facilities are provided by the manufacturer for testing this extra heavy equipment in completely assembled form, including Christmas tree and valves. Bolting and flanges are built to A. E. S. C. 1350 series with other portions built in proportion.

A recent revelopment in meeting the extra high pressures with Regan equipment is noted in the adoption of special hydraulic packing. No packing clamps are now used. Hydraulic packing is used, backed up by a slightly raised annular

Pace-Setting Pipe Liners!

Setting the pace is a thirty-year-old habit of Buckeye *Wheel-Type* Pipe Line Ditchers. Right down the line at the rate of a mile or more a day is not unusual performance. Thousands of them have cut hundreds of thousands of miles of trench, their dependable digging ability reducing excavating costs to the minimum. Nearly every large pipe line contractor uses them exclusively.

Chief of many distinctive and preferred Buckeye features are these: All-steel construction; accurate grading ability; rugged main frame; slow-speed, heavy-duty motor; multiple digging speeds, readily shifted; strong, rigid digging wheel; positive acting conveyor; self-cleaning buckets; Alligator (crawler) wheels with traction brakes; complete power control; and one-man operation throughout. Repairs and replacements are easily and quickly made. Any part can be serviced without disturbing its cooperative parts.

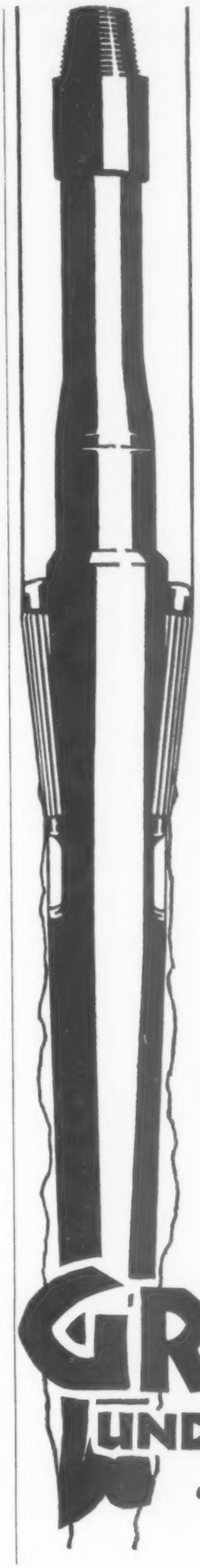
Built in a complete range of sizes, with cutting widths ranging from 11½ to 40 inches and digging to 7½ feet deep, there is a Buckeye *Wheel-Type* Ditcher for every oil and gas line need.

Write for our beautiful new Pipe Line Ditcher Catalog. It contains actual working views, performance data, and specifications of vital interest to pipe line engineers and contractors.

The Buckeye Traction Ditcher Co.
FINDLAY, OHIO

There's a Buckeye Sales and Service Office near You

for over thirty years **Buckeye**



YOU GET ALL The Oil by *underreaming* Through the OIL SANDS

If you've got a low pressure well—the chances are you're not getting *all* the oil out of it unless you *underream*. Drilling through the oil sands leaves mud in the walls of the hole. Because the gas pressure is not sufficient to wash this mud out, it presents an obstruction to free flow of oil into the hole.

But if you *underream* with the Grant Rotary Expansion Underreamer, you remove these obstructions and get *all* the oil. Many oil companies have increased production *four* and *five* times by underreaming and *ten* times is not uncommon.

If you want a Reamer to true up the hole—don't buy an extra tool. Simply get a Grant Underreamer with Cutter Control Collar and you have a straight reamer.

Full Details on Request

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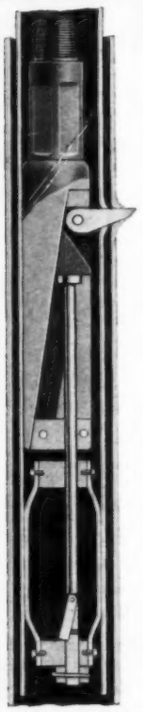

Perforates single or double thickness of pipe at any desired spot with either cable tools or rotary.

A practical, economical and efficient tool that has proven itself successfully in more than 100 wells in the El Dorado district alone.

Rental basis only in United States—Sales in foreign countries.

For full details, write, wire or call:

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ring which gives a metal-to-metal contact after the packing is compressed, utilizing the load of the suspended casing plus the thrust applied by the flange bolts, which secures a tight seal between the flanges. The addition of this annular metal ring behind the packing adds an additional factor of safety against fires, according to Regan engineers.

A new bulletin designated as No. 50 has just been issued by Regan describing the various classifications of casing control equipment.

Hercules Motors Corporation has established a Mid-Continent office in Tulsa at 733 Mayo building in charge of R. J. Scott, who has been in charge of the company's operation in that territory for a number of years.

Brown Instrument Company, Philadelphia, has just let a contract for 40,000 square feet of additional floor space to Robert E. Lamb Company, representing the third expansion program within the past three years. Construction will be started shortly, and the new space will be occupied early this fall. This extra space will be in the form of two additional floors on all of the new two-story concrete sections of the plant.

Petroleum Equipment Company, Frisco Tracks off West Rio Grande street, Fort Worth, has published a 10-page, loose-leaf catalog covering its products, including specialized balls and seats, valves, rods, rod clamps, and other pumping specialties. The catalog is illustrated and carries complete specifications and prices on this line of products. A copy is available upon request.

Lee B. Mettler Company, 406 South Main street, Los Angeles, has just issued a new catalog covering the Mettler line of gas burners, including the latest development of this company, the Mettler full automatic conversion burner. The Mettler entrained combustion principle of burning gas has been incorporated in the new conversion burner, making it possible to use primary air only for combustion.

A copy of this catalog will be sent upon request to the company.

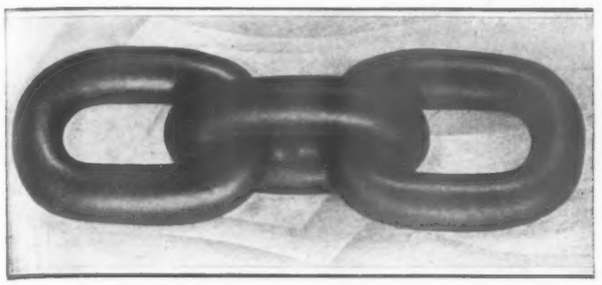
Pressed Steel Tank Company has recently opened a new Los Angeles office under the management of J. A. Barr, formerly connected with Associated Supply Company. He will represent the company on all of the Hackney products, including steel drums with patented raised openings, seamless steel barrels, cylinders, shells and special shapes. The new office is located at Room 456 Roosevelt building, 727 West Seventh street, Los Angeles.

The Heppenstall Company, Pittsburgh, has just had published two bulletins, one on Heppenstall die blocks and one on Heppenstall forgings. These bulletins are fully illustrated and carry charts showing full particulars on these products. The bulletin on die blocks covers 52 pages and that on forgings 24 pages. A copy of either or both of the bulletins will be mailed upon request to the headquarters office of the company, Pittsburgh.

Hercules Motors Corporation of Canton, Ohio, announces the appointment of Walter F. Radtke as Pacific Coast sales representative, effective June 1. He formerly represented the company in the Mid-Continent states. His headquarters will be in a recently opened office, Room 601 Russ Building, San Francisco. Hercules Motors Corporation has also announced the opening of an office at Room 733 Mayo Building, Tulsa, in charge of R. J. Scott, Mid-Continent sales representative.

TRADE **YALE** MARK

STEEL CHAIN



EACH link is made with full respect for its individual importance. That chain is no stronger than its weakest link is trite, but true. So true that Yale takes every precaution with the manufacture of all chain used in Yale Chain Blocks. EVERY LINK is made of special heat treated steel. EACH LINK is die formed, electrically welded, trimmed, and *stretched to gauge*, that the unit of chain may offer the utmost in strength, safety and service.

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(Steelex Seat—Bronzex Ball)
FOR SAND AND LODESTONE

ASK YOUR DEALER

The Chas. N. Hough Manufacturing Co.
FRANKLIN, PA.

Squeaks from the Bull Wheel

Customer—"Wouldn't you take off something for cash?"
Salesgirl—"Sir!"

Disappointed Convict (back on the rock pile after several years)—"Taint altered a bit, 'as it? I thought after all these years they'd have introduced some labor-saving devices."

Roaming interestedly through Harlem, a stroller eaves-dropped on this conversation between two colored preachers.

"Where you preaching now, brother?"

"Nowhere," was the answer.

"A fine preacher like you is, too," said the first.

"That's just it," retorted the other. "I'm a preachin' preacher, and what that last congregation wanted was a prayin' preacher, and that ain't in my line. Seems like they's too much specification nowadays."

Supervisor—Hello! Hello! Do you wish to call a number?

Colored Man's Voice—No, sah, Miss, ah don' want no numbah.

Sup.—Then don't play with the telephone.

Man—Ah ain' playing wif no fone. The receivah fell in de sugah bowl an' I'se been lickin' the sugah offen de receivah.

"Yes, sir, I believe that big wars are often caused by the smallest matters," —ruminated Old Man Jones.

"Things that a fellow thinks don't amount to a darn, will often pile up a mountain of trouble for him. Why, just the other night, my wife was working over a cross-word puzzle—and she looked up and asked—"What is a female sheep?"

"And I replied—'ewe;'—and there was another big war on."

Minister: "And how high can you count, my little man?"

Boy: "One, two, three, four, five, six, seven, eight, nine, ten, Jack, Queen and King."

Mrs. Campbell: "Dear, I saw the sweetest little hat downtown today."

Campbell: "Put it on, and let me see how you look in it."

"That's certainly a very lifelike snowman you have there. I almost thought I saw it move."

"Maybe you did, mister, we've got my brother Jimmy inside."

Miss de Muir: Papa always gives me a book for my birthday.

Miss de Meanor: What a fine library you must have!

Teacher: "What is ignorance, Tommy?"

Tommy: "Ignorance is when you don't know anything and somebody finds it out."

"A lot you know about animals. Why, you don't even know what a lioness is."

"Hum, you can't catch me there. Lioness is no animal. Lioness is potatoes."

"I have always maintained," declared Charles, "that no two people on earth think alike."

"You'll change your mind," said his fiance, "when you look over our wedding presents."

Judge—Have you read the Constitution of the United States?

Mike (applying for citizenship papers) No, your Honor.

Have you read the history of the United States?

No, your Honor.

Well, what have you read?

Begorra, I have red hair on me head, Sir.

Two-gun Murphy was arrested for passing a red traffic light.

"Don't you know any better than that?" scolded the policeman.

"Oh, hang the regulations," the motorist retorted. "They don't mean nothin' to me. I'm a trusty in Atlanta penitentiary, serving a life sentence."

I understand your daughter married a self-made man.

So she did; but she has had to make extensive alterations since.

A Chinese laundryman in a New Jersey town, three months in arrears in his rent, received a sarcastic dun from his landlord. The Chinaman, trying to answer him in kind, sent this stinging reply:

"Dear Sir:

"Yes indeed, I arrears three months rent. If you were I should you pay and keep month shut, who is like dam fool to pay the thing unsatisfactory.

"Unless you patch the roof and put new paper on the wall then I clear that. Later if you do not do I shall sue you damage for working hours. Many time the work had done however midnight rain, next morning all clothes wet I have start all over and waste my time for nothing."

Husband—I wonder when you'll learn to make bread like mother used to make.

Wife—Probably by the time you make the dough father used to make.

"Now, Johnny, what do you think a land flowing with milk and honey would be like?"

"Sticky and full of flies."

10 TIMES LONGER LIFE for Drilling Tools

Blackor is granular in form. Can be applied at the rate of 100 square inches per hour. One ounce covers from 4 to 6 square inches, one layer.

Because the abrasion resistance of Blackor is so great, tools armored with Blackor cut much longer without coming out of hole. Blackor eliminates the necessity of hard inserts because it is as hard as any metal insert. It will outlast hardfacing metals 10 times.

Easily applied with the carbon electric arc. Bonds with the steel—preventing chipping or breaking off. Presents an area totally abrasion-resistant. Leaves no unprotected spots to wear away. Costs less to apply.

If you want to get more hole—faster—put Blackor on your drilling tools. A trial order will convince you!

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1,613,942	16,347
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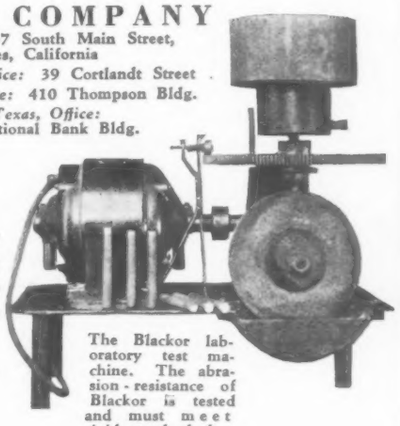
359,925	2,580
30,021	1,069

Reissue No. 17,323
Other Patents Pending



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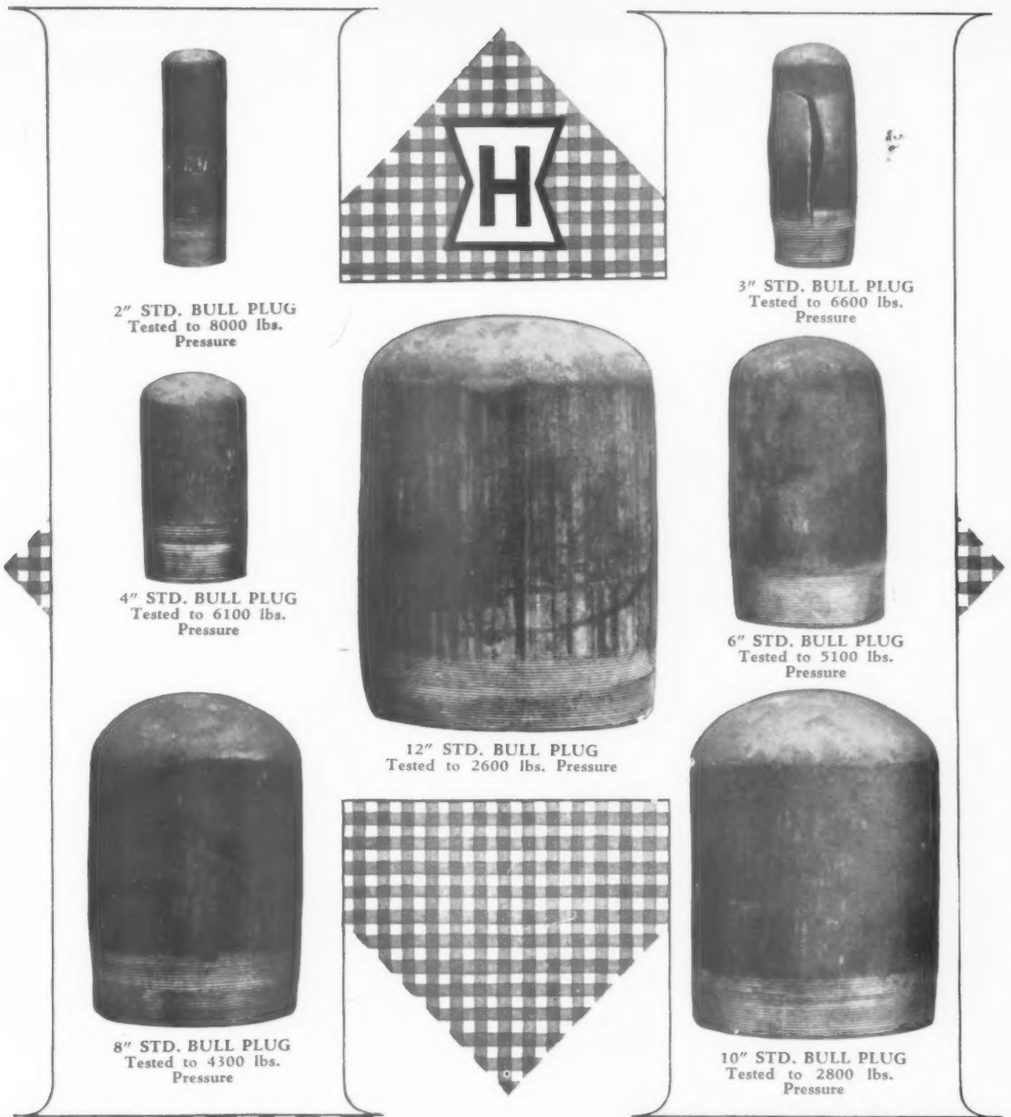

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